L. A.
AQUEDUCT

BOOK 2

DEPARTMENT OF WATER AND POWER
CITY OF LOS ANGELES
FOUNDED 1781

MYTH, HISTORY, AND WATER IN THE EASTERN SIERRA

When it rains in Los Angeles, it often does so with a vengeance that more than makes up for the dry spells. Expensive homes in Malibu tumble into the sea, landslides block Pacific Coast Highway, children make the fatal error of trying to ride an inner tube in the Los Angeles River channel, streets are flooded, traffic gets hopelessly tied up, and roofing contractors get lots of work. Meanwhile, television newscasters assure viewers that all the rain is a Good Thing, that because of the rain the snowpack in the Sierra is above normal.

To most of the residents of Los Angeles, the size of the Sierra snowpack has little or no meaning. At best some Angelenos have a vague idea that there's an aqueduct that brings water to Los Angeles from somewhere else. They often confuse the California Aqueduct with the one bringing water from the Owens River. In many ways Los Angeles is a city without a history. An overwhelming number of new and recent arrivals, speaking languages from all over the world, have no idea that the main reason Los Angeles exists as a megalopolis is because of water brought to it from more than 200 miles away.

As such, they live with the consequences of decisions made almost a century ago -decisions that affected the lives of people who lived or would live in two regions: Los Angeles and the Owens Valley. The consequences of these decisions are obvious. The City of Los Angeles has a population of more than three million people. Inyo and Mono Counties have a combined total about 27,000. Los Angeles dominates the economic and political life of most of the southern California area. The Eastern Sierra is an economic vassal of southern California, its residents very much involved with the tourist trade as those southern Californians come up Highway 395 heading for ski resorts or camping trips. Los Angeles wallows in urban problems: crime, graffiti, traffic congestion, overcrowded schools and underfunded public services. Many a Los Angeles resident who has visited the Eastern Sierra region longs for the slower pace and greater sense of community to be found in Bridgeport, Bishop, Independence, or the other small towns of the region.

But the current status of the quality of life in both regions is based on the decisions of long ago which created the consequences. Hindsight is 20-20, so the explanation is easy to see. A big city triumphed over an agricultural region and took that region's water supply. Thus simplified, the story of the Owens River-Los Angeles water dispute becomes a morality play, or at the very least, a motion picture, "Chinatown."

Public perception of the water controversy lies more in popular culture than history. When my book *Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy* was published, I kept running into people, who on hearing of my work would say, "Oh, yeah--"Chinatown." As if seeing the movie made them instant experts on the history. "Chinatown," of course, created its own myths and distortions. While it successfully recreated an era of political intrigue and mystery, it obscured basic facts by setting the story in the 1930s instead of the early 1900s, murdering the Mulholland character, and even injecting incest into the plot. I have found that in talking to anyone whose interest in the water controversy was whetted by seeing "Chinatown," I first have to strip away all of the fictional devices in the film in order to start discussing the history. And, of course, some people are disappointed that there wasn't any incest after all.

The true history--as opposed to the myths, distortions, and fictionalizing--lies in the ambitions of two agricultural regions of California. In 1896 southern California (not just the City of Los Angeles) was heavily promoting itself as a center of economic opportunity. The focus of this opportunity was citrus agriculture, particularly oranges. Real estate speculation had peaked in the Boom of the 1880's, but the City of Los Angeles, the center of the Boom, still had a strong sense of boosterism. Its population in 1890, some 50,000 people, was a five-fold increase over its size in 1880. Community leaders were involved in a wide range of economic activities. A "businessman" did not concentrate on merely one

line of work--not when there was real estate, transportation, agriculture, oil, and the beginnings of industrial activity.

The Southern Pacific Railroad had connected to Los Angeles in 1876; a decade later, the arrival of the Santa Fe generated a rate war which dramatically lowered the price of a train ticket to southern California. Some 120.000 people arrived in the region in 1886 just to see what all the publicity was about. Pasadena, Arcadia, Ontario, Redondo Beach, and Inglewood are examples of communities that effectively began in the 1880's. It should be noted that McPherson, Gladstone, Chicago Park, and Alosta exemplify real estate promotions that never went anywhere. Stories were told of extravagant advertising claims. Among the most extreme were the speculators who tied oranges from Joshua trees in the middle of the desert to swindle gullible investors.

Despite the shenanigans and the inevitable bursting of the bubble, southern California continued to grow. although more modestly than in the frenetic 1880's. There seemed only one limitation that might slow or even stop the growth: reliable water supplies.

In the 1890's agriculturists seemed to be more concerned with the start of the rainfall season than its connection to the local river systems. For the local boosters, the question about the start of the rainfall season was not if but when. The semiarid climate of the region defied rainfall predictions. Its average annual rainfall was as speculative a figure as the real estate value of Gladstone or Chicago Park. Newspapers editorialized and published cartoons discussing the prosperity that would surely come once the rain started falling. The National Weather Bureau began keeping rainfall statistics for southern California in 1877, but no clear pattern could be seen. There had been droughts, most terribly in the early 1860s.

In the 1890s growing numbers of agriculturists began to investigate the benefits of irrigation. But irrigation demanded water already on the ground, not waiting for it to fall from the sky. Meanwhile, some 250 miles to the north, another region was considering the benefits of its own growth and development. American explorers first visited the Owens Valley in the 1830s; John C. Fremont named the valley in 1845 after one of his expedition's members. Beginning in the 1850s, a series of gold and silver strikes in the Inyo-Mono area brought people to such mining camps as Cerro Gordo and Bodie. The Cerro Gordo mines brought out some $17 million. The region, however, was isolated, and badly in need of rail and road connections to the outside world.

Ironically, Los Angeles provided the first economic outlet. Freighter Remi Nadeau brought out bullion and transported in supplies to the Owens Valley. By the 1870's Los Angeles considered Bakersfield a rival for the Owens Valley trade. One scheme to solve the problem was a railroad connection between Los Angeles and the Owens Valley. Senator John P Jones of Nevada proposed a Los Angeles and Independence Railroad in 1875, an ambitious connection that would have made Inyo County directly accessible to a Pacific seaport. Jones created a seaport town, Santa Monica, as the terminus of the railroad. Unfortunately for his plans, Jones' railroad never made it east of Los Angeles. The Southern Pacific proved a formidable rival, and Jones ran into money problems. When the Owens Valley did obtain its rail connection, the tracks came from another direction.

The Carson and Colorado Railroad was a narrow-gauge line that stretched from Carson City, Nevada, to Owens Lake. Despite its name, however, the railroad never reached the Colorado River. Settlers in Inyo and Mono Counties found three problems hampering their development. The Paiute Indians didn't want the newcomers digging holes and trenches all over the land, and the 1860s witnessed a series of bloody confrontations between whites and Indians. With the Indians pacified, settlers had to face a second problem: mining was a boom-arid-bust, extractive economy--not the best basis for stable growth.

Bodie, one of the West's most notorious mining towns, shot up from a few hundred to as many as 12,000 people in the late 1870s. No one has ever come up with a truly accurate count of Bodie's population in its brief and turbulent heyday. As the mines around Bodie declined in production, people left for richer diggings elsewhere. Some departed in such haste that they left their personal possessions in their rooms and houses, which explains why these artifacts may be seen today through dusty windows at Bodie State Historic Park. Bodie residents found it easier to take from the environment rather than work it. Enterprising food providers ransacked gull nests at Mono Lake for eggs and shot the birds. Other people, with long-range views, took up farming.

This evoked the third problem; outside markets for surplus agricultural goods. Freight wagons moved too slowly for perishable items. The Carson & Colorado Railroad provided an outlet of sorts, but its connection to Nevada made it a roundabout route at best for Eastern Sierra residents. With the beginning of the 20th century, a new opportunity promised to provide a market for Owens Valley products. Southwestern Nevada became the location for a series of gold strikes and the creation of new towns, including Tonopah, Goldfield, and Rhyolite.

A new rail line, the Tonopah & Goldfield Railroad, connected with the Carson & Colorado at Tonopah Junction. Now the Owens Valley was directly connected to what promised to be a series of towns with a growing population base. No one in Owens Valley seems to have considered the lesson of Bodie--that if the mines played out, the new Nevada towns could become just as deserted as Bodie, Dog Town, and Monoville had become after their moment had passed. This is speculation, not history, because the Owens Valley settlers never really had a chance to develop a Nevada market.

Farmers mainly cultivated the soil in the northern half of Owens Valley. This meant that by the start of the 20th century, most of the valley population lived in that area. Bishop surpassed Independence, the county seat, in size. In 1903 Bishop became incorporated and made plans to put in water and sewer connections as well as a telephone system. But there was a hitch in these ambitious plans which were based on the needs of the people in the Nevada mining towns.

Despite cultivation and their anticipation of prosperity, settlers didn't have control of the Owens River. Low-lying areas became swamps in flood season. Potential acreage needed irrigation to grow crops. The cost of gaining control of the Owens River, to use its water for irrigation, exceeded anyone's individual capital. At this point the destinies of Los Angeles and the Eastern Sierra came together

In 1902, the Newlands Reclamation Act created the U.S. Reclamation Service and provided for the irrigation and reclamation of undeveloped lands. Created in the spirit of progressivism, the goal of the reclamation movement was to conquer arid America by constructing dams, channels, and flood control systems, thereby opening new land for cultivation. This new land would be made available at reasonable cost to prospective farmers who would repay the cost of Reclamation Service work into a revolving fund.

In practice, little worked the way the Reclamation Service intended. Political rhetoric claimed that people crowded in eastern cities would flock to the newly reclaimed lands. Few made such a move, and those who did learned quickly that some expertise in farming was a prerequisite if one was to succeed on the land. Those who did establish farms complained that the payment schedule was too demanding; they needed a longer period for repayment of their debt.

Requests for surveys far exceeded the number of projects feasible under Reclamation Service appropriations. Politics also intruded. Eastern senators and congressmen failed to comprehend the differences between humid and arid environments. There was also a fundamental contradiction in progressive philosophy. Essentially an urban movement, progressivism called for the greatest good to the greatest number, in the tradition of John Stuart Mill and Jeremy Bentham. No one at first seemed

to notice that this view contrasted with the goal of reclaiming land in remote areas.

In any event, one of the first areas picked to be surveyed for a possible reclamation project was the Owens Valley. It was not the only site. Frederick H. Newell, chief engineer of the Reclamation Service, noted that "in California the number of possible projects and their range is so great that much time and thought must be given to the work in order that each possible project should get adequate consideration." Newell suggested to Joseph B. Lippincott, the Reclamation Service engineer in charge of work in California, that he conduct a survey in the Owens Valley as to its feasibility for an irrigation project. Lippincott passed the assignment to one of his assistants, Jacob C. Clausen, to conduct a preliminary survey. Clausen reported enthusiastically on his initial reconnaissance of the valley. In August 1903 Lippincott recommended that Owens Valley public lands should be withdrawn from any further settlement pending a full-scale survey of Owens River possibilities.

Meanwhile, certain people in Los Angeles had begun considering the Owens River for quite another use. Frederick Eaton, former city engineer and mayor of Los Angeles, had recognized as early as 1892 that a potential use of the Owens River existed beyond its own watershed. As he watched Los Angeles grow, he also recognized the limits of the Los Angeles River to supply the number of people, who kept coming. Given a few years, Los Angeles might well become the victim of its own success.

This problem was also becoming apparent to William Mulholland, chief of the Bureau of Water Works and Supply (forerunner of the Los Angeles Department of Water and Power). Mulholland had arrived in Los Angeles in 1876. At that time the water distribution of the Los Angeles River was under a franchise granted to a private firm, the Los Angeles City Water Company. Mulholland went to work for the water company and rose through the ranks to become its superintendent. The company failed to keep up with water demands from the growing number of people in Los Angeles, and after some litigation, the city won back its distribution rights from the private company. Water distribution then became a municipal operation, with Mulholland the bureau's first manager.

Lippincott, Eaton, and Mulholland, ca. 1906

The years 1896-1905 have been the subject of debate as to whether the decade was a period of continuous drought for Los Angeles. Historians have argued back and forth on this issue, with no one investigating weather reports or rainfall figures. Since the question of a drought is a necessary point of argument in understanding Los Angeles's craving for Owens River water, it is surprising that no one has checked the validity of the alleged drought since the information sources are easily available.

Between 1896 and 1905 Los Angeles indeed sustained long dry spells, although no evidence exists to suggest a continuous 10-year drought. What is of interest is the uncertainty of when the rain would fall in a semiarid environment.

It was entirely possible that December in one year could have eight inches of rain; in another year, December could be bone dry. The usual figure for the average annual rainfall for Los Angeles, fifteen inches a year, belies the fact that half that amount could, and often did, fall in one severe rainstorm. Depending on southern California rain to water one's orange grove would be quite a gamble. On that basis, irrigation made sense for citrus agriculture as well as other water-intensive crops. A controlled water supply also meant that farmers could do well on as little as 10 acres if those acres were irrigated.

Apart from the uncertain rainfall, Mulholland faced another problem, Los Angeles was simply too successful at advertising itself. Incoming residents strained the ability of water works personnel to install new water hookups; and the Los Angeles River as a source of water to supply those new residents was fast reaching its limit,

The population of Los Angeles by 1900 had doubled over the previous decade, to 100,000. Growth was far exceeding estimates. The anticipated figure for 1905 was 200,000. Doubling in just five years! Mulholland could plan for the future, but he couldn't predict it. The Los Angeles River could not serve more than a city of 250,000. What would happen once that level of population was reached, then passed? It was therefore not only the threat of drought, but concern over population growth that brought Mulholland and Eaton together. Eaton had an idea about a future water supply, as well as a personal agenda for the advancement of his own fortune. Eaton's idea was to construct an aqueduct linking the Owens River to Los Angeles.

Enter the wild card in the creation of the water controversy: Joseph B. Lippincott. Although Lippincott was a federal employee, his home base was in Los Angeles where he had lived since 1892. Eaton, Mulholland, and Lippincott moved in the same social circles. As a Los Angeles resident, Lippincott knew full well the limits of the local river to supply the growing needs of the city. In the late summer of 1904 Lippincott and Eaton went on a camping trip in the Sierra Nevada. Although some historians have ascribed sinister and ulterior motives to the trip, it seems to have been pretty much a friend and family affair Lippincott's wife and daughter were along, as was the family of artist Fernand Lunoren and several other guests.

The trip started on the western side of the Sierra and went from Yosemite Valley to Tuolumne Meadows, and over Tioga Pass to Mono Lake. While getting supplies at Bishop, Lippincott met Clausen. The young engineer described his reclamation survey in glowing terms. Eaton was within earshot. No sooner did Eaton return to Los Angeles than he invited Mulholland to go with him to Owens Valley to see the river for himself. Mulholland came, saw, and was conquered. But what about the Reclamation Service survey?

In the weeks that followed Mulholland learned that Eaton's original idea was to own the water rights at certain strategic locations and to make a profit on that water as it coursed down the city's aqueduct. Mulholland knew that such an arrangement would never be approved since the aqueduct would be crossing public lands. Eaton gave in on the crucial point that the aqueduct, if and when it was built, would be a municipal operation from one end to the other. But he bought the Long Valley ranch in Mono County, knowing that it was the best and most logical place to build a storage reservoir--and that eventually Mulholland would have to approach him about it.

What followed does not represent Los Angeles's finest hour. While the Owens River was not stolen in the technically legal sense, there was enough secrecy and backroom wheeling and dealing to justify the complaint of Owens Valley settlers that their water supply was unfairly, if not illegally, taken from

them.

In November 1904 Mulholland, Eaton, and Lippincott met with Newell in Los Angeles. Mulholland promised Newell that any project undertaken by Los Angeles would be wholly municipal in operation. Newell then gave Mulholland the data on the Owens River that had been collected by the Reclamation Service in its survey. Clausen's report, in Mulholland's hands, was invaluable to the city in the calculation of the benefits of Owens River water. Ostensibly, the Reclamation Service information would be weighed against reports of other potential water sources. In actuality, no other sources were seriously considered.

By March 1905 Fred Eaton was traveling through Owens Valley buying water options from farmers whose lands adjoined the Owens River. Contrary to general belief, most of these lands were in the southern half of the valley, below the point (the Alabama gate) where the city would make its diversion.

However, Eaton completed his negotiations for the purchase of the Rickey Ranch in Long Valley. Farmers had the impression that Eaton was buying these options on behalf of the Reclamation Service, a charge Eaton and Lippincott always denied. Eaton and Mulholland of course knew that if the farmers found out the city was the actual purchaser of the water rights, the price would skyrocket. Eaton may not have actually said he was acting for Lippincott, but it was known in the valley that they were friends, and Eaton did nothing to correct the misimpression.

While Eaton was buying up Owens River water rights, other city leaders had their own ideas about the uses of Owens River water in Los Angeles. One of the members of the Los Angeles Board of Water Commissioners, Moses Sherman, belonged to a land syndicate headed by Harrison Gray Otis, publisher of the *Los Angeles Times*, and his son-in-law, Harry Chandler. Although the paper trail is thin, the conclusion seems inescapable that this land syndicate used Sherman's inside information to buy up 16,000 acres of the San Fernando Valley that would be irrigated with Owens River water.

In 1905 the San Fernando Valley was a sparsely settled, agriculturally productive area. In no way did it resemble a "desolate desert" as some writers have claimed. Thousands of acres in the valley were under cultivation for wheat, beans, corn, and citrus. The headwaters of the Los Angeles River began in what is today Canoga Park. In the northeast corner of the valley, the City of San Fernando had coexisted with Los Angeles since the 1870's. Making San Fernando Valley land irrigible with Owens River water would increase its value and make a profit for the syndicate investors.

It should be noted, however, that Otis and company headed two syndicates, not one. The second syndicate bought up a much greater amount of land that formed the basis of today's communities of Sherman Oaks, Van Nuys, Tarzana, Reseda, and Canoga Park. This land acquisition, however, took place while the aqueduct was already under construction. Sloppy researchers have made the two syndicates into one and claimed a monstrous land grab. Whatever the dubious means by which the first syndicate acquired its information, the second syndicate was well in the public eye when it made its purchase.

To illustrate the power of advertising, Canoga Park was originally named Owensmouth even though it is some 20 miles from the Aqueduct Cascade at Sylmar. Los Angeles officials added to the modem sense of conspiracy by agreeing to keep all negotiations secret. Lippincott was paid by the city to submit a report claiming no other water sources matched the Owens River, a report the city rubber-stamped to justify its support for an Owens River Aqueduct. Rumors flew around Owens Valley in the spring of 1905 as to what was going on, but public announcement did not appear until July 29. "Titanic Project To Give City A River" proclaimed the *Los Angeles Times*.

The Reclamation Service, claiming limited finds and saying the survey had only been preliminary anyway, withdrew its plans for a contemplated Owens Valley reclamation project. Angry Owens Valley residents branded Lippincott as "Judas B. Lippincott." Lippincott wrote numerous and lengthy letters justifying his position in the affair An internal scandal erupted in the Department of the Interior when Stafford Austin, a Land Office official, accused Lippincott of conflict of interest. Lippincott barely escaped censure, then did his reputation little good by resigning from the Reclamation Service and, only a week later, accepting a position as Mulholland's assistant on the aqueduct construction project.

Ultimately, President Theodore Roosevelt gave his blessing to the city project under the philosophy of the greatest good to the greatest number. With acquisition of necessary water rights as fait accompli, Mulholland and his engineers proceeded to design and build the Owens River Aqueduct. Completed in 1913, it was compared to the Panama Canal in its engineering challenges, if minus the threat of yellow fever and malaria. But the aqueduct had one major shortcoming; Mulholland refused to pay Eaton's price for the right to construct a storage reservoir at Long Valley.

This major omission in the aqueduct network proved costly in later years, for Mulholland approved construction of a large storage reservoir at another site--San Francisquito Canyon, where Los Angeles built the ill-fated St. Francis Dam. Sometimes hindsight isn't 20-20. Some people need their history simplified, and so the period 1913-1923 doesn't exist. We move forward from the completion of the aqueduct directly into the water wars of the 1920s.

In actuality, the northern half of the Owens Valley remained relatively untouched by the aqueduct. The intake for the aqueduct was located at Lone Pine, well south of the Owens Valley farms. Willie Chalfant, long-time editor of the Inyo Register, could comment in 1922, "A satisfactory agreement should be the final chapter of a long-standing question." Chalfant repudiated this statement a dozen years later, bitter at the outcome of the renewal of the dispute between city and valley in the 1920s. Even Mulholland had failed to estimate the ever-increasing numbers of people coming to Los Angeles. By 1920 the city counted 576,000; in 1930 it topped a million. More water and power called for control of more sources. In 1923 Los Angeles commenced a policy of buying entire Owens Valley farms and ranches so as to increase the water flowing down the aqueduct. Merchants in the towns, especially Bishop, found their businesses spiraling downwards as the customers left the valley.

Some valley residents resorted to violence, periodically dynamiting the aqueduct between 1924 and 1927. Among the valley's most militant leaders were Mark and Wilfred Watterson, owners of a small chain of banks in Owens Valley towns. When a bank audit revealed that the Watterson brothers had been embezzling from their own bank, valley residents were shocked. The banks closed their doors, the deposits of valley residents were lost, and resistance to Los Angeles collapsed.

A few months later the St. Francis Dam failed, March 12, 1928, killing some *450* people. Mulholland's career was ruined. A note on Eaton's Log Valley ranch came due, but the money for it had been in the Watterson bank. Eaton lost his property. By the early 1930s the image of Los Angeles had become one of an aggressive and ambitious entity that was ruthless in getting what it wanted. This view became quite popular with the publication of Chalfant's *Story of Inyo* and Morrow Mayo's *Los Angeles*, considered by many to ho the best hatchet job ever done on Los Angeles.

Both books owed much of their information to a pamphlet written by Andre Nordskog, a self-styled reformer who had championed the Owens Valley cause. His pamphlet, which a friendly assemblyman inserted into the State Assembly record and then had printed at public expense, was based on documents Nordskog had obtained from the Reclamation Service. The fact that many of the quotations were taken out of context has not prevented careless writers from using the pamphlet in the mistaken

belief it was an official state publication.

Los Angeles tried to make some amends. In 1941 the city opened Crowley Lake at the Long Valley site, providing a long overdue storage reservoir as well as an important recreational resource. The Department of Water and Power actively supported recreational development in the Owens Valley as replacement for the loss of the ranching and farming economy. Property was leased to ranchers for pastoral use. Although disputes over construction of a second aqueduct, the pumping of groundwater, and repurchase of property arose, both city and valley by the late 1980s managed to settle the last of the grievances and differences.

Further north, however, Los Angeles became involved in another bitter dispute. In the 1920s the city purchased the water of the streams flowing into Mono Lake and constructed an extension to the aqueduct. Completed in 1941, the Mono Extension fed more water to the thirsty city. But it also meant that Mono Lake would slowly decline, By the late 1970s it was 40 feet below its 1941 level, and Negit Island was about to become a peninsula. If this happened, coyotes would have easy access to the island's rookeries.

In 1978 the Mono Lake Committee, a group of young biologists and ecologists, began fighting the degradation of the lake's environment. They took Los Angeles to court and roused public attention. The city lost one legal point after another throughout the 1980's. It was a case of David versus Goliath, and David won.

Los Angeles also acquired water and more important, electrical power, through Parker Dam, the Colorado River Aqueduct, and its dominant role in the Metropolitan Water District. Even in this instance Los Angeles was not free from litigation. Arizona sued for a greater share of Colorado River water and won its case. In the long run, if one looks for winners and losers, Owens Valley may have come out slightly ahead. Visitors to the Owens Valley tourist information centers find dozens of brochures offering motels, camping, hunting, and fishing excursions, local museums, and skiing accommodations. Mammoth has become one of the West's major ski resort areas. Recreational facilities in Inyo and Mono Counties, whether federal, state, or county operated, are excellent. In Mono County, the Lee Vining Visitor Center across from Mono Lake is a treasure throve of information on Mono Lake from the environmentalist viewpoint, with minimal input from the DWP.

The Inter-Agency Visitor Center at Lone Pine offers a surprisingly large number of books and pamphlets on the history, biology, botany, and geology of the Eastern Sierra region. Residents of the region enjoy a quality of life that includes clean air, stunning scenery, and a sense of community with their neighbors. To be sure, some 300,000 acres of the Owens Valley are owned by the City of Los Angeles. The city has both the water and the dubious achievement of being the second-largest city in the United States, with all the urban problems that go with that status. Ironically, many Los Angeles residents don't trust what comes out of their taps any more. They drink bottled water.

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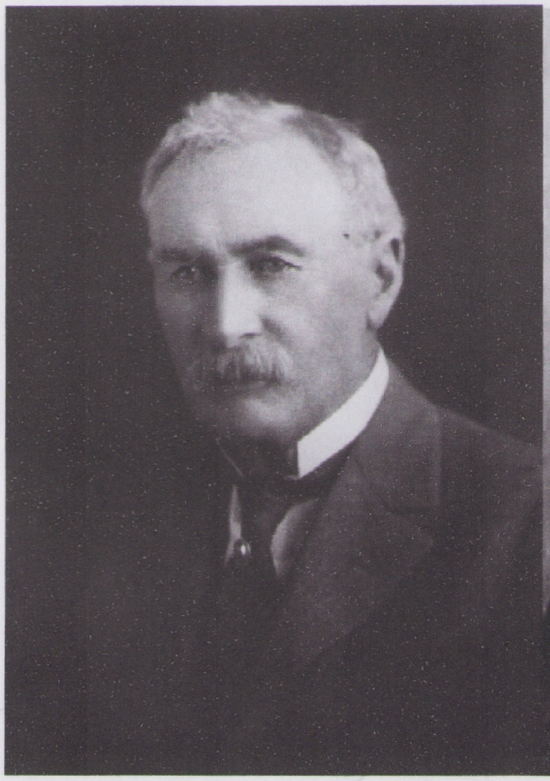
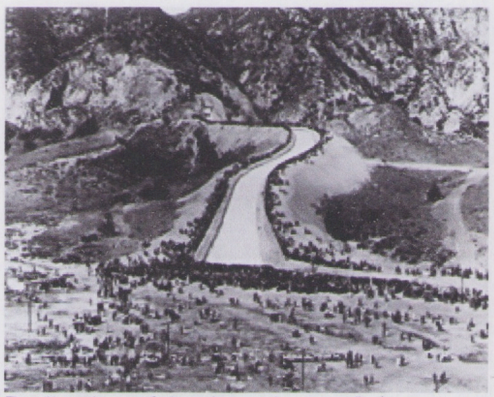


William Mulholland

Fred Eaton

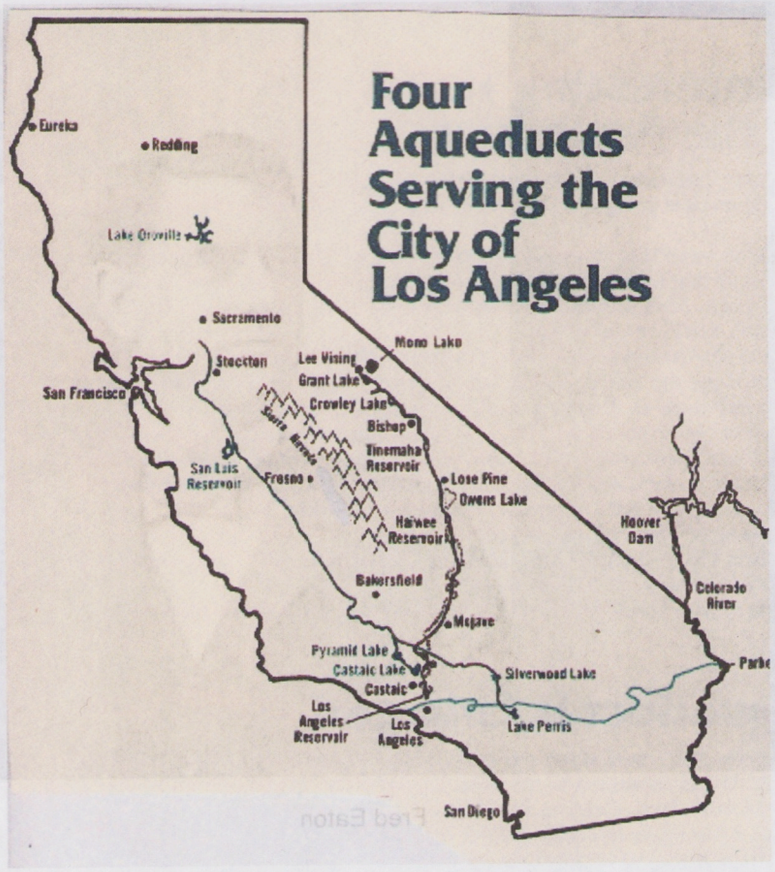


Dedication of the Aqueduct at Sylmar, November 5, 1913

Los Angeles Times, July 29, 1905

TITANIC PROJECT TO GIVE CITY A RIVER.

Thirty Thousand Inches of Water to Be Brought to Los Angeles.


Four Aqueducts Serving the City of Los Angeles
Eureka
Redding
Lake Oroville
Sacramento
Stockton
San Francisco
San Luis Reservoir
Fresno
Lee Vining
Mono Lake
Grant Lake
Crowley Lake
Bishop
Tinemaha Reservoir
Lone Pine
Owens Lake
Haiwee Reservoir
Bakersfield
Mojave
Pyramid Lake
Castaic Lake
Castaic
Los Angeles Reservoir
Los Angeles
Silverwood Lake
Lake Perris
San Diego
Hoover Dam
Colorado River

The Story of the Los Angeles Aqueduct

In 1913 the City of Los Angeles completed construction of the first Los Angeles Aqueduct. This is the story of how the dream of a few far-sighted people at the turn of the 20th Century became a reality. Follow the links below for details on how the Los Angeles Aqueduct was conceived and built.

"The City Owns its Water"

From the time that Los Angeles was first founded in 1769, the small settlement had depended upon its own river for water. The 11 families that settled in the area dammed up the Los Angeles River and built canals to irrigate fields. But as the city grew, those in charge of supplying the growing population with water knew the small meandering river could not meet future demands.

A New Supply

William Mulholland, an immigrant from Ireland, went to work for the Los Angeles City Water Company as a ditch tender. When he became superintendent of the water company at the age of 31, Mulholland began to search for a new water supply.

The Owens River Valley

In 1904, Fred Eaton and J. B. Lippincott traveled to Yosemite Valley on a family camping trip. They crossed the Sierra at Tioga Pass and headed south to Bishop for supplies, and eventually back to Los Angeles through the Owens Valley. During that trip Eaton began making plans that would bring water to a growing city and launch a long conflict.

"The Owens Valley is the Only Source"

Eaton convinced Mulholland that the Owens River could provide Los Angeles with a reliable source of water.

The Last Spike is Driven

Eaton visited the Owens Valley in 1905 and began to purchase land for the City of Los Angeles. He gave the impression that he was working for the US Reclamation Service on a public irrigation project, angering local residents when they discovered he was buying land and water rights for Los Angeles

A Hundred or a Thousand Fold More Important

After securing the land and water rights, the Board of Water Commissioners needed to obtain the money from Los Angeles residents, and legal rights from the Federal Government, to construct the aqueduct. A bond measure to pay for the construction passed in Los Angeles by a 10 to 1 margin. After much debate in the House of Representatives, President Theodore Roosevelt decided that Los Angeles should have the rights to the Owens River water.

Construction Begins

Construction on the Los Angeles Aqueduct began in 1908. Workers from all over the world came to work at high-paying jobs that would last for several years.

World Records

Over the years, construction crews set numerous records for miles of tunnel cut and length of pipe installed. The Los Angeles Board of Public Works estimated that crews could dig eight feet of tunnel per day at each tunnel end, for a total of 16 feet per day. Crews dug more than 22 feet per day while constructing the five-mile Elizabeth Tunnel. They finished the tunnel 20 months earlier than the Board's estimate of five years.

"This Rude Platform is an Altar"

At the dedication of the Los Angeles Aqueduct on November 5, 1913, Mulholland told the thousands of people attending the ceremony that they were there to dedicate the Aqueduct to "you and your children and your children's children for all time."

"Whoever Brings the Water, Brings the People"

Once Los Angeles had a reliable water supply it began to grow dramatically. However, Owens Valley residents began to fight the City's water export. Confrontations escalated to several dynamitings of the Aqueduct. To secure its water rights, the City began to purchase extensive tracts of land in the Owens Valley.

The Mono Basin Project

After World War II, the City began the Mono Basin Project as a way of providing a larger and more dependable flow in the Los Angeles Aqueduct. Four of Mono Lake's seven tributary streams, Lee Vining, Parker, Walker and Rush Creeks, were tapped for export to Los Angeles through an 11-mile tunnel. Crowley Lake and Grant Lake were also built as part of the Mono Basin Project.

A Second Aqueduct

The challenge to supply water to Los Angeles continued to press. Because the capacity of the Los Angeles Aqueduct was limited, the City was unable to take its full entitlement from the Mono Basin. The California State Water Rights Board urged Los Angeles to take steps to develop its full entitlement, or risk that the water might be granted to others. To increase the Aqueduct capacity, a second aqueduct was built from Haiwee Reservoir in Southern Inyo County to Los Angeles.

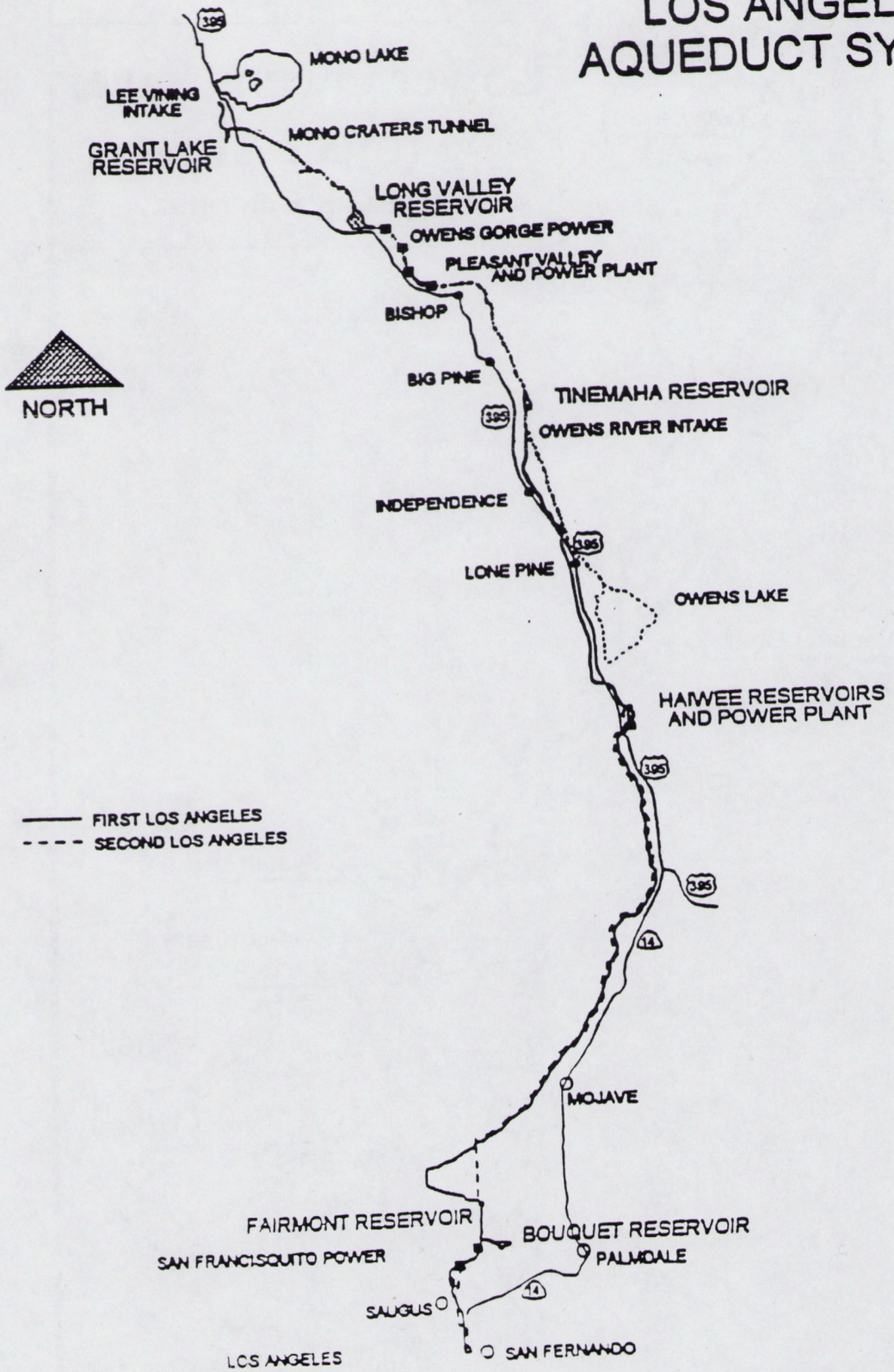
Water Conservation

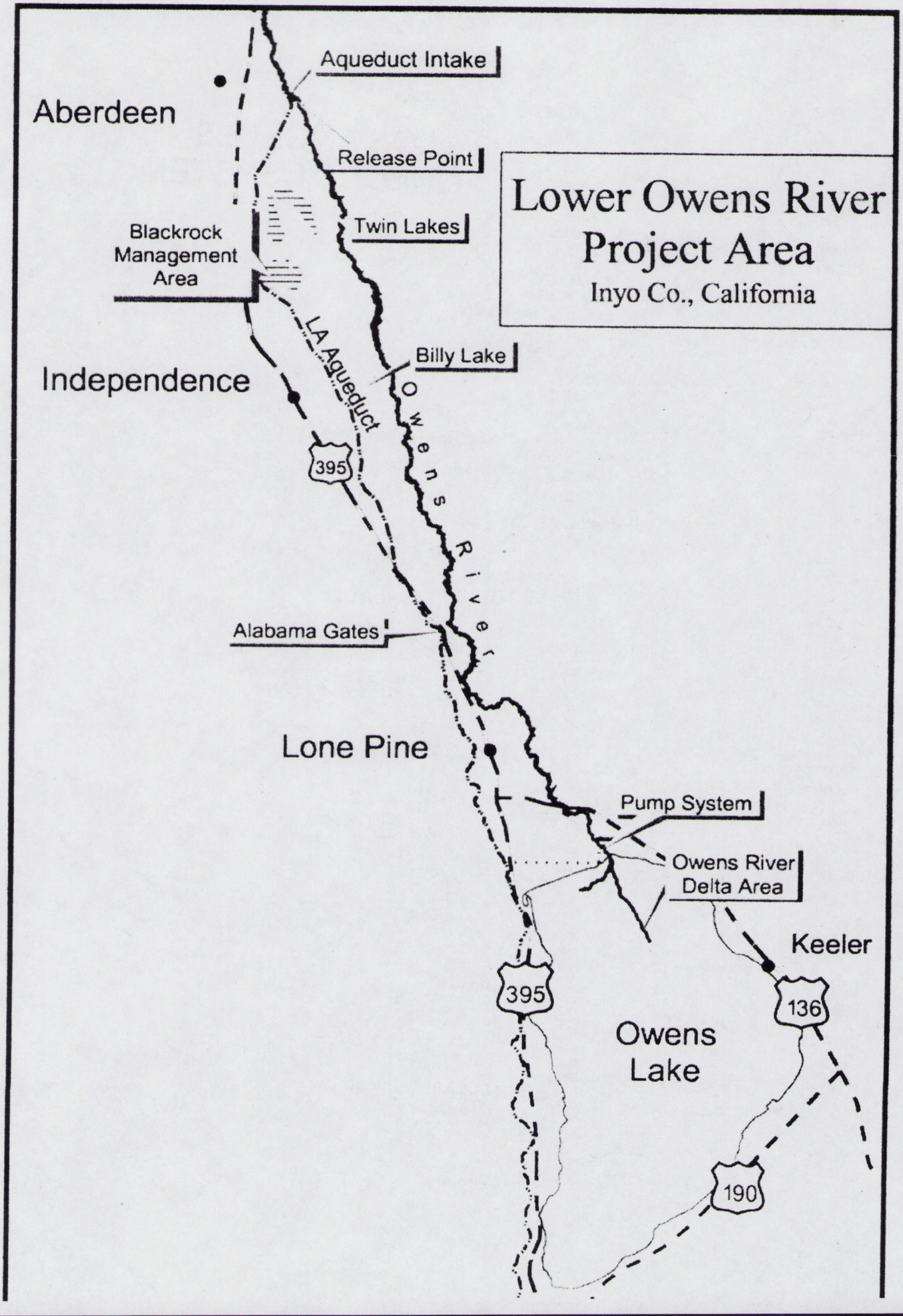
Under Mulholland's leadership, Los Angeles began a program of metering all water uses to encourage water conservation. Per capita daily water use dropped to 178 gallons per day by the mid-1980's, about half of what was used in unmetered cities such as Sacramento. The City continues to emphasize and improve its programs through many innovative approaches that have made Los Angeles a water conservation leader in the Nation.

Sharing the Vision

Mulholland truly had a vision when he looked to the Eastern Sierra and envisioned an aqueduct to bring water to a growing city. Los Angeles has become the nation's second largest city because of his decision to find another reliable water supply.

LOS ANGELES AQUEDUCT SYSTEM




Lower Owens River
Project Area
Inyo Co., California
Aqueduct Intake
Aberdeen
Release Point
Twin Lakes
Blackrock
Management
Area
LA Aqueduct
Billy Lake
Independence
395
Owens River
Alabama Gates
Lone Pine
Pump System
Owens River
Delta Area
Keeler
395
136
Owens
Lake
190

Owens Valley

and the

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Issued January, 1925, by the

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City of Los Angeles

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$100 an acre. For 22,000 acres of this same land, the City in 1923 and the first six months of 1924 **paid an average price of $145 an acre, or $45 an acre above the value fixed by the district's own engineers.** That certainly was no case of "beating down" the owners or destruction of values.

GROWTH AND BUILDING ACTIVITY AT BISHOP

Since the construction of the Los Angeles aqueduct, Bishop, the largest town in Owens Valley, has prospered and grown. **During the last two years there has been greater activity in building than ever before in the town's history.** In 1924 a solid block of new store buildings was erected by Watterson Brothers, Inc., at a cost of approximately $75,000. The Kitty Lee Inn, an extremely attractive tourist and commercial hotel, involving the investment of approximately $100,000, also was built last year, as well as a new American Legion Hall. Both these buildings were sponsored by the Bishop Chamber of Commerce, which aided in their financing.

RAILROAD AN AID TO THE VALLEY

When the City of Los Angeles was about to undertake construction of the aqueduct, the problem of transportation of materials and supplies over the long desert stretches north from Mojave faced the engineers. It was solved by an arrangement with the Southern Pacific company, whereby the company constructed a broad gauge line from Mojave to Lone Pine, a distance of about 120 miles, on condition that it would be given a certain amount of freight during construction of the aqueduct. **That arrangement by the City resulted in giving Owens Valley a standard broad gauge railroad as an outlet to the markets of Los Angeles and all the southwest for the Valley products.**

SECURES STATE AID FOR AUTO ROAD

A committee of the Los Angeles Board of Public Service Commissioners several months ago took up with the California State Highway Commission the matter of improvement and care of the automobile road from Mojave into Owens Valley. Several meetings were held with the highway commissioners, and Governor Richardson's committee of nine, who after visiting the valley recommended, and **the highway commission has adopted, a plan to have the state take over upkeep of the road, and to spend a sum equal to $400 a mile on its improvement.** This will mean easier access to the Valley and will swell the already large volume of tourist travel.

CITY VOLUNTARILY PAYS COUNTY TAXES

The City of Los Angeles is the largest taxpayer in Inyo County. For the year ending June 30, 1924, the City taxes on land and other property in Owens Valley were approximately $70,000, about one-fourth of the total taxes collected in the entire county. Yet the City need have paid no taxes whatever. When the purchase of lands in connection with the aqueduct was begun, the state constitution specifically exempted cities from payment of taxes on property owned in other counties. But City officials connected with the aqueduct initiated steps in the state legislature to have the constitution amended so as to compel payment of taxes on City lands the same as any land and property owner. **Before the new law went into force the City voluntarily paid the taxes.**

Impossible Demands

CLAIMING that the operation of the aqueduct has caused a "shrinkage" in land values, W. W. Watterson, president of the Owens Valley Irrigation District, has demanded that the City pay $5,500,000 in "reparations" to the ranchers and business interests of the Valley.

Facts disclosed in other portions of this pamphlet **prove conclusively that there has been no shrinkage in values of either ranch or town property, or loss of any kind, by the residents of the Valley by reason of any act or policy of the City of Los Angeles.**

Furthermore, the Board of Public Service Commissioners cannot legally expend public funds intrusted to it for the payment of "reparations" claims. **The Board, however, is willing and anxious to do everything within its power to help improve conditions in the Valley:** (1) By assuring a full water supply for an area sufficient to support the towns, (2) By helping to bring about the highest possible development of that area, (3) By working to secure needed highway and other improvements, (4) By enlisting the aid of civic organizations in increasing tourist business in the Valley.

Coupled with Mr. Watterson's demand for "reparations" is another proposal. Either pay $5,500,000 for "shrinkage" in values, he says, or buy the 25,800 acres owned by the ranchers in the irrigation district at a price of $12,000,000. This price, he explains, will include $6,500,000 for purchase of the land and $5,500,000 to compensate the land owners and business interests for "shrinkage" in values.

The City has no need whatever for the land Mr. Watterson wants to sell. Why should it expend $12,000,000 of the taxpayers' money for land it does not need, especially when such a purchase would mean the destruction of a productive farming district?

Furthermore, the price demanded by Mr. Watterson and his associates is exorbitant and utterly unreasonable, even if the City needed the land. **W. R. McCarthy,** engineer for Mr. Watterson's irrigation district, in 1923 **appraised this land at $100 per acre. In his $6,500,000 demand, Watterson is asking $252 an acre, or $152 an acre more than the value placed on the land by the district's own engineer.**

In the face of this exorbitant price, Mr. Watterson still insists that the ranchers should be "compensated" for "shrinkage in values," to the tune of $5,500,000.

City's Owens Valley Policy

DETERMINED to do all within its power to bring about an exactly defined and permanent water agreement in Owens Valley that will best serve the interests of that region and also assure Los Angeles of a full aqueduct supply, the Board of Public Service Commissioners on October 14, 1924, adopted a resolution setting forth its policy along this line.

The Commission's policy was based upon facts **established by a disinterested and eminently able board of engineers,** selected by the Los Angeles Chamber of Commerce. This Board of engineers was composed of Louis C. Hill, J. B. Lippincott and A. L. Sonderegger.

In their report, filed August 14, 1924, these engineers pointed out that there is sufficient water available in Owens Valley to provide for the full irrigation of 30,000 acres of land, in addition to assuring a full aqueduct supply.

The report further pointed out that there is not enough water available in Owens Valley and the Mono Basin, to the north, to make feasible or practicable the construction of a second aqueduct to Los Angeles, even though all agricultural development in Owens Valley be discontinued.

PLAN OUTLINED

The Commission's policy or plan, in brief, provides:

First. That the City of Los Angeles is ready to establish such water conservation and development facilities as will **guarantee an ample and regulated irrigation supply for 30,000 acres,** or more, of the best land in Owens Valley.

Second. That these 30,000 acres shall remain under private ownership of Valley residents, **the City not to make any land purchases whatsoever within the zone or zones set aside to comprise this acreage.**

Third. That the City would use its best efforts to bring about the establishment of a good automobile road from Los Angeles into and through Owens Valley. Such a road will open the beautiful mountain country of that region to all Southern California, **thereby building up a profitable tourist trade for the Valley people.**

Since it was unnecessary to secure the Valley's formal agreement to the good road feature of the Commission's plan, work on this project has rapidly progressed, and has already borne fruit. The California State Highway Commission has authorized the taking over of the road from Mojave to Independence, a distance of 130 miles, as a State Highway, **and has voted to this year expend $400 a mile in grading, leveling and maintaining the road in good condition.**

ASSURES PROSPERITY FOR VALLEY

The Commission's plan provides for permanent development of the best farming, dairy and orchard land in Owens Valley. In providing an assured 100 per cent water supply, in place of the present uncertain and fluctuating stream flow, this plan opens the way for the intense and unfailing cultivation of every acre of this land. It insures a production exceeding anything known in the past history of the Valley.

In that part of Owens Valley naturally tributary to the town of Bishop there is now held in private ownership approximately 30,000 acres of irrigated land. Except for certain scattered purchases and exchanges necessary to round out the area into a solid block, this land will remain in private ownership, under the Commission's plan.

DEVELOPMENT VS. DESTRUCTION

Purchase by the City of Los Angeles of all irrigated land in Owens Valley could not be justified from the standpoint of the City or the Valley, or the general development of the state.

From the City standpoint, purchase of all such land would mean the expenditure of millions of dollars of public money for land not needed in connection with the aqueduct water supply, or for any other purpose.

From the Valley's standpoint, purchase by the City of all irrigated lands in the Valley, and withdrawal of this land from crop production, would result in the **absolute destruction of Owens Valley as an agricultural district.** It would leave the Valley towns standing isolated in the midst of a country reverted to desert, with no crop production to support existing commercial life and business.

Purchase by the City of all lands now held in private ownership in Owens Valley **would in no way benefit the City,** and would mean the **utter destruction of one of the oldest agricultural sections in the state.**

On the other hand, the Commission's proposed water policy is one that guarantees the continued development of Owens Valley. It establishes a full and dependable water supply for 30,000 acres in place of the present uncertain supply. **And in assuring continued farming development, the Commission's plan guarantees prosperity to the towns and business interests of the Valley.**

Facts About Owens Valley

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—land values in Owens Valley have steadily risen.

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—the City of Los Angeles is the largest taxpayer in Inyo County, paying one-fourth of the total taxes collected there.

—during the past two years the value of building operations in Bishop, largest town in Owens Valley, far surpassed any two preceding years in the town's history.

—the State Highway Commission, urged by officials of Los Angeles, has consented to spend $400 a mile on improvement of the road from Mojave into Owens Valley.

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W. R. McCarthy, engineer for the Owens Valley Irrigation District, and J. C. Clausen, consulting engineer, in a report to the district on March 20, 1923, fixed the value of 53,900 acres of land in the Irrigation District at $5,536,400, or approximately

tes Interests of Owens Valley

$100 an acre. For 22,000 acres of this same land, the City in 1923 and the first six months of 1924 **paid an average price of $145 an acre, or $45 an acre above the value fixed by the district's own engineers.** That certainly was no case of "beating down" the owners or destruction of values.

GROWTH AND BUILDING ACTIVITY AT BISHOP

Since the construction of the Los Angeles aqueduct, Bishop, the largest town in Owens Valley, has prospered and grown. **During the last two years there has been greater activity in building than ever before in the town's history.** In 1924 a solid block of new store buildings was erected by Watterson Brothers, Inc., at a cost of approximately $75,000. The Kitty Lee Inn, an extremely attractive tourist and commercial hotel, involving the investment of approximately $100,000, also was built last year, as well as a new American Legion Hall. Both these buildings were sponsored by the Bishop Chamber of Commerce, which aided in their financing.

RAILROAD AN AID TO THE VALLEY

When the City of Los Angeles was about to undertake construction of the aqueduct, the problem of transportation of materials and supplies over the long desert stretches north from Mojave faced the engineers. It was solved by an arrangement with the Southern Pacific company, whereby the company constructed a broad gauge line from Mojave to Lone Pine, a distance of about 120 miles, on condition that it would be given a certain amount of freight during construction of the aqueduct. **That arrangement by the City resulted in giving Owens Valley a standard broad gauge railroad as an outlet to the markets of Los Angeles and all the southwest for the Valley products.**

SECURES STATE AID FOR AUTO ROAD

A committee of the Los Angeles Board of Public Service Commissioners several months ago took up with the California State Highway Commission the matter of improvement and care of the automobile road from Mojave into Owens Valley. Several meetings were held with the highway commissioners, and Governor Richardson's committee of nine, who after visiting the valley recommended, and **the highway commission has adopted, a plan to have the state take over upkeep of the road, and to spend a sum equal to $400 a mile on its improvement.** This will mean easier access to the Valley and will swell the already large volume of tourist travel.

CITY VOLUNTARILY PAYS COUNTY TAXES

The City of Los Angeles is the largest taxpayer in Inyo County. For the year ending June 30, 1924, the City taxes on land and other property in Owens Valley were approximately $70,000, about one-fourth of the total taxes collected in the entire county. Yet the City need have paid no taxes whatever. When the purchase of lands in connection with the aqueduct was begun, the state constitution specifically exempted cities from payment of taxes on property owned in other counties. But City officials connected with the aqueduct initiated steps in the state legislature to have the constitution amended so as to compel payment of taxes on City lands the same as any land and property owner. **Before the new law went into force the City voluntarily paid the taxes.**

Impossible Demands

CLAIMING that the operation of the aqueduct has caused a "shrinkage" in land values, W. W. Watterson, president of the Owens Valley Irrigation District, has demanded that the City pay $5,500,000 in "reparations" to the ranchers and business interests of the Valley.

Facts disclosed in other portions of this pamphlet **prove conclusively that there has been no shrinkage in values of either ranch or town property, or loss of any kind, by the residents of the Valley by reason of any act or policy of the City of Los Angeles.**

Furthermore, the Board of Public Service Commissioners cannot legally expend public funds intrusted to it for the payment of "reparations" claims. **The Board, however, is willing and anxious to do everything within its power to help improve conditions in the Valley:** (1) By assuring a full water supply for an area sufficient to support the towns, (2) By helping to bring about the highest possible development of that area, (3) By working to secure needed highway and other improvements, (4) By enlisting the aid of civic organizations in increasing tourist business in the Valley.

Coupled with Mr. Watterson's demand for "reparations" is another proposal. Either pay $5,500,000 for "shrinkage" in values, he says, or buy the 25,800 acres owned by the ranchers in the irrigation district at a price of $12,000,000. This price, he explains, will include $6,500,000 for purchase of the land and $5,500,000 to compensate the land owners and business interests for "shrinkage" in values.

The City has no need whatever for the land Mr. Watterson wants to sell. Why should it expend $12,000,000 of the taxpayers' money for land it does not need, especially when such a purchase would mean the destruction of a productive farming district?

Furthermore, the price demanded by Mr. Watterson and his associates is exorbitant and utterly unreasonable, even if the City needed the land. **W. R. McCarthy,** engineer for Mr. Watterson's irrigation district, in 1923 **appraised this land at $100 per acre. In his $6,500,000 demand, Watterson is asking $252 an acre, or $152 an acre more than the value placed on the land by the district's own engineer.**

In the face of this exorbitant price, Mr. Watterson still insists that the ranchers should be "compensated" for "shrinkage in values," to the tune of $5,500,000.

City's Owens Valley Policy

DETERMINED to do all within its power to bring about an exactly defined and permanent water agreement in Owens Valley that will best serve the interests of that region and also assure Los Angeles of a full aqueduct supply, the Board of Public Service Commissioners on October 14, 1924, adopted a resolution setting forth its policy along this line.

The Commission's policy was based upon facts **established by a disinterested and eminently able board of engineers,** selected by the Los Angeles Chamber of Commerce. This Board of engineers was composed of Louis C. Hill, J. B. Lippincott and A. L. Sonderegger.

In their report, filed August 14, 1924, these engineers pointed out that there is sufficient water available in Owens Valley to provide for the full irrigation of 30,000 acres of land, in addition to assuring a full aqueduct supply.

The report further pointed out that there is not enough water available in Owens Valley and the Mono Basin, to the north, to make feasible or practicable the construction of a second aqueduct to Los Angeles, even though all agricultural development in Owens Valley be discontinued.

PLAN OUTLINED

The Commission's policy or plan, in brief, provides:

First. That the City of Los Angeles is ready to establish such water conservation and development facilities as will **guarantee an ample and regulated irrigation supply for 30,000 acres,** or more, of the best land in Owens Valley.

Second. That these 30,000 acres shall remain under private ownership of Valley residents, **the City not to make any land purchases whatsoever within the zone or zones set aside to comprise this acreage.**

Third. That the City would use its best efforts to bring about the establishment of a good automobile road from Los Angeles into and through Owens Valley. Such a road will open the beautiful mountain country of that region to all Southern California, **thereby building up a profitable tourist trade for the Valley people.**

Since it was unnecessary to secure the Valley's formal agreement to the good road feature of the Commission's plan, work on this project has rapidly progressed, and has already borne fruit. The California State Highway Commission has authorized the taking over of the road from Mojave to Independence, a distance of 130 miles, as a State Highway, **and has voted to this year expend $400 a mile in grading, leveling and maintaining the road in good condition.**

ASSURES PROSPERITY FOR VALLEY

The Commission's plan provides for permanent development of the best farming, dairy and orchard land in Owens Valley. In providing an assured 100 per cent water supply, in place of the present uncertain and fluctuating stream flow, this plan opens the way for the intense and unfailing cultivation of every acre of this land. It insures a production exceeding anything known in the past history of the Valley.

In that part of Owens Valley naturally tributary to the town of Bishop there is now held in private ownership approximately 30,000 acres of irrigated land. Except for certain scattered purchases and exchanges necessary to round out the area into a solid block, this land will remain in private ownership, under the Commission's plan.

DEVELOPMENT VS. DESTRUCTION

Purchase by the City of Los Angeles of all irrigated land in Owens Valley could not be justified from the standpoint of the City or the Valley, or the general development of the state.

From the City standpoint, purchase of all such land would mean the expenditure of millions of dollars of public money for land not needed in connection with the aqueduct water supply, or for any other purpose.

From the Valley's standpoint, purchase by the City of all irrigated lands in the Valley, and withdrawal of this land from crop production, would result in the **absolute destruction of Owens Valley as an agricultural district.** It would leave the Valley towns standing isolated in the midst of a country reverted to desert, with no crop production to support existing commercial life and business.

Purchase by the City of all lands now held in private ownership in Owens Valley **would in no way benefit the City,** and would mean the **utter destruction of one of the oldest agricultural sections in the state.**

On the other hand, the Commission's proposed water policy is one that guarantees the continued development of Owens Valley. It establishes a full and dependable water supply for 30,000 acres in place of the present uncertain supply. **And in assuring continued farming development, the Commission's plan guarantees prosperity to the towns and business interests of the Valley.**

Facts About Owens Valley

Since the Los Angeles Aqueduct was Built---

—land values in Owens Valley have steadily risen.

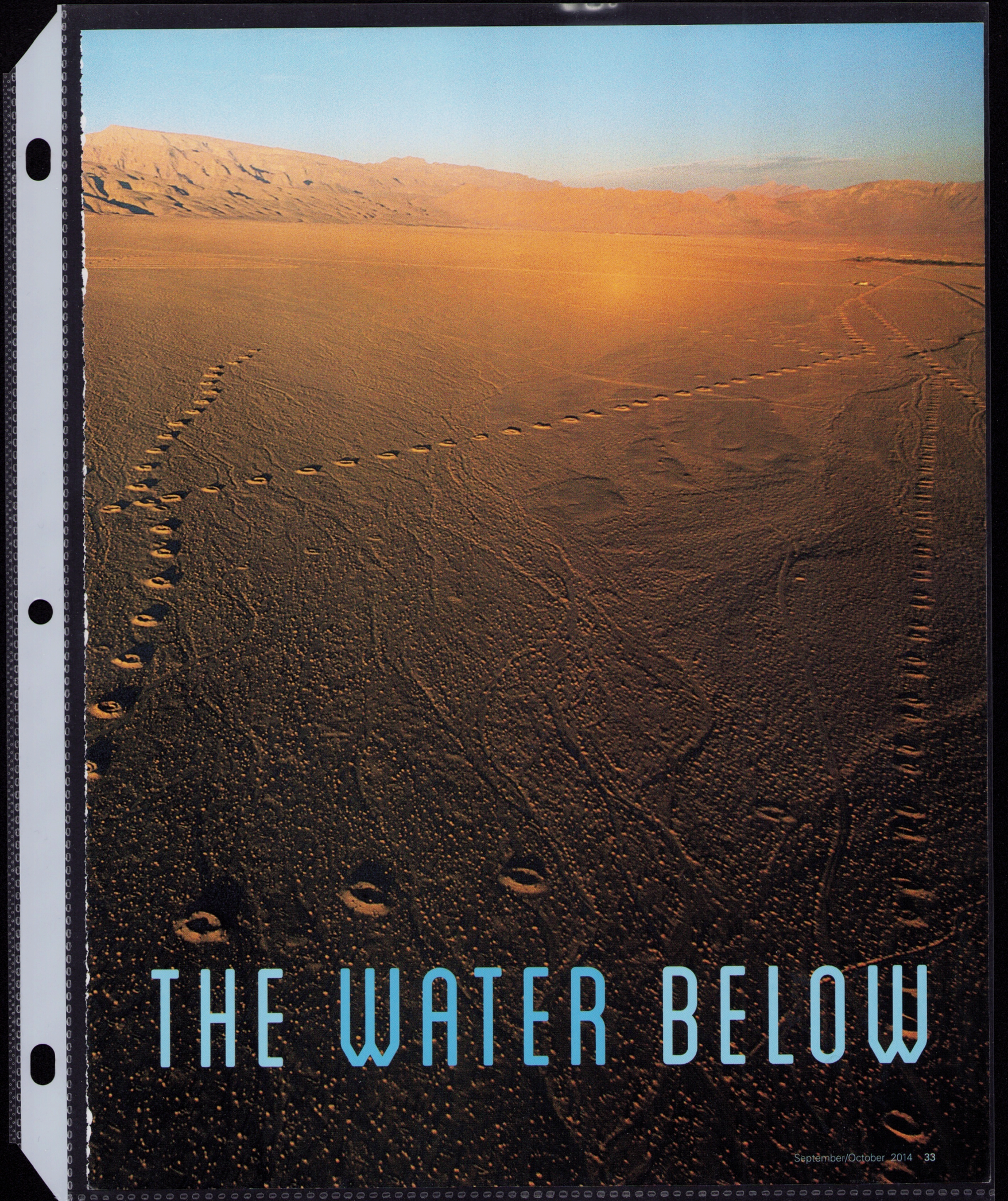
—assessed valuations in Owens Valley have increased four-fold.

—the City of Los Angeles is the largest taxpayer in Inyo County, paying one-fourth of the total taxes collected there.

—during the past two years the value of building operations in Bishop, largest town in Owens Valley, far surpassed any two preceding years in the town's history.

—the State Highway Commission, urged by officials of Los Angeles, has consented to spend $400 a mile on improvement of the road from Mojave into Owens Valley.

—directly through the efforts of the City of Los Angeles, a standard gauge railroad was built into Owens Valley, giving it an outlet to the markets of this City and the Southwest.



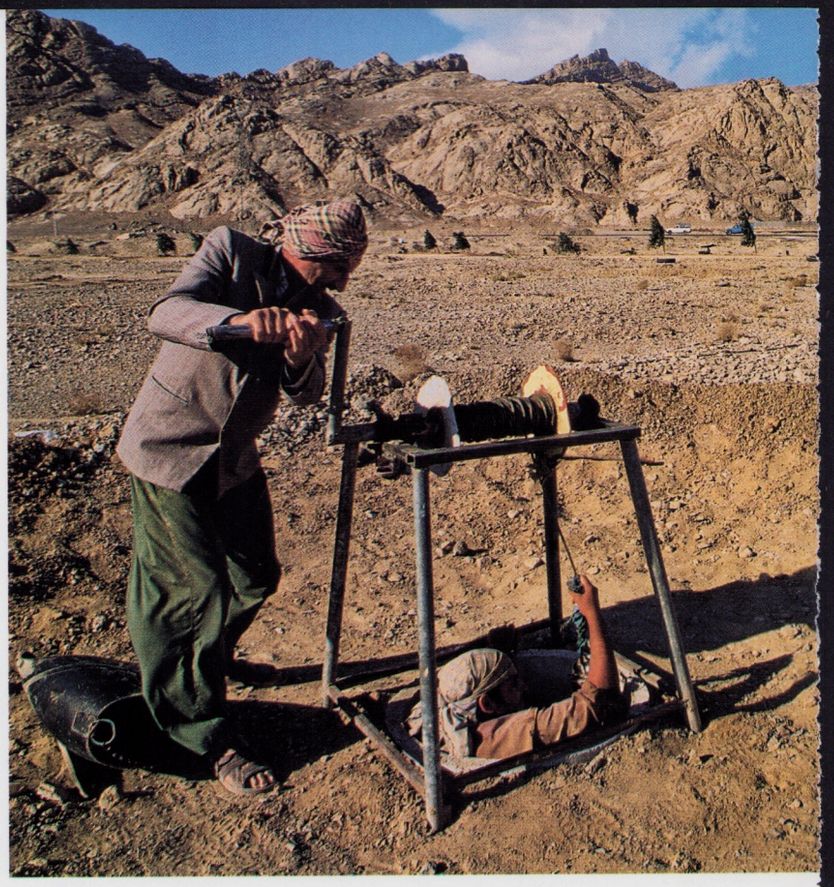
THE WATER BELOW

From North Africa, Iberia and across the Middle East to Central Asia and northwestern China, these are *qanats*—subterranean aqueducts. Known by different names in different places, they all do the same thing: channel precious water from springs, lakes, streams and aquifers to low-lying fields in arid plains. Hand-dug and requiring routine, hands-on maintenance, they date back 3000 years, and many are still supplying farms and drinking water.

Growing food in arid regions has always been hard, risky work. Ever since humans first figured out how to cultivate crops more than 10,000 years ago, one of the biggest problems farmers have faced in lands with limited rainfall has been how to get enough water to their furrows.

In some lands, distant seasonal rains and mountain snowmelts flood rivers, and the runoff covers croplands. Such flooding happened along the Nile in Egypt for millennia, until that river was domesticated in modern times by the Aswan High Dam. Riverine flooding similarly fed Mesopotamian farmlands along the Tigris and Euphrates. In both regions, early engineers built elaborate systems of canals, channels and basins to regulate and conserve water.

Yet in these and other hot, dry lands, canals, channels and basins all face a common, elemental problem: evaporation. The blazing sun depletes surface water with merciless speed. So scarce and precious is the water that engineers devised a clever—if laborious—solution: shade the water in an underground tunnel sloped to allow gravity to move the water from source to thirsty farmland.

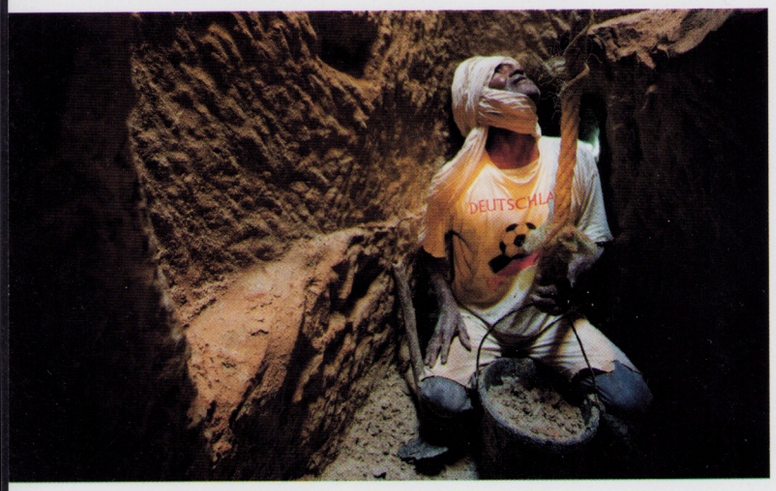


Just who dug the first qanats is uncertain. Although some researchers think they may have originated in the highlands of today's Armenia, or perhaps in the mountains of Oman, the most widely accepted hypothesis points to the area commonly referred to today as Kurdistan—northwestern Iran as well as adjacent parts of Turkey and Iraq—in the early first millennium BCE, where subterranean water systems have been found in the mountains. Ancient miners worked these mountains, too, and they would have known much about building tunnels. Geographer and early water systems researcher Dale Lightfoot of Oklahoma State University asserts that it was from here that the know-how for these irrigation systems spread both east and west to lands that today are parts of some 35 countries.

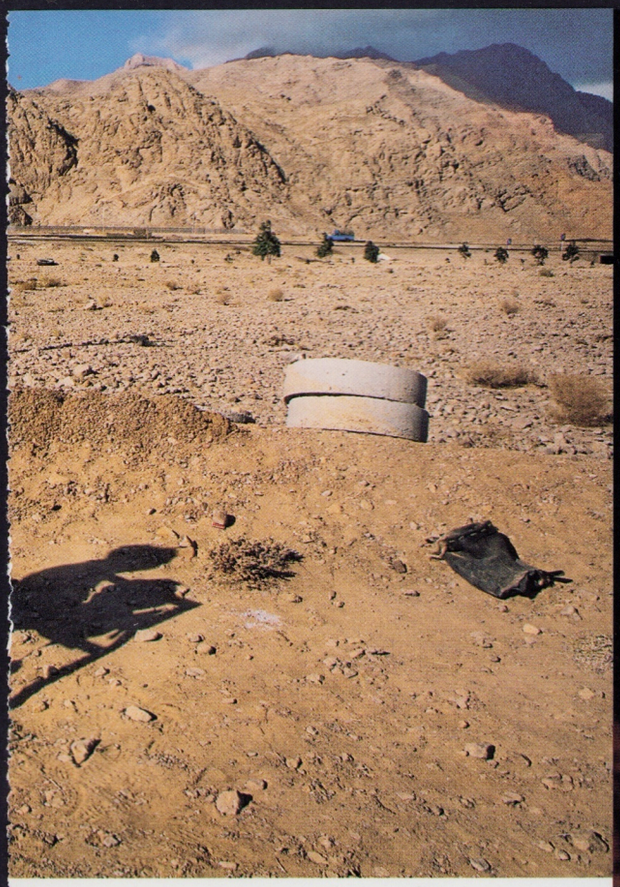
Called *qanat* (channel) in the Arab lands, they are *karez* in Persia, *falaj* in Oman and the UAE; they are *foggara* in most of North Africa, except in Morocco, where they are *khettara.*

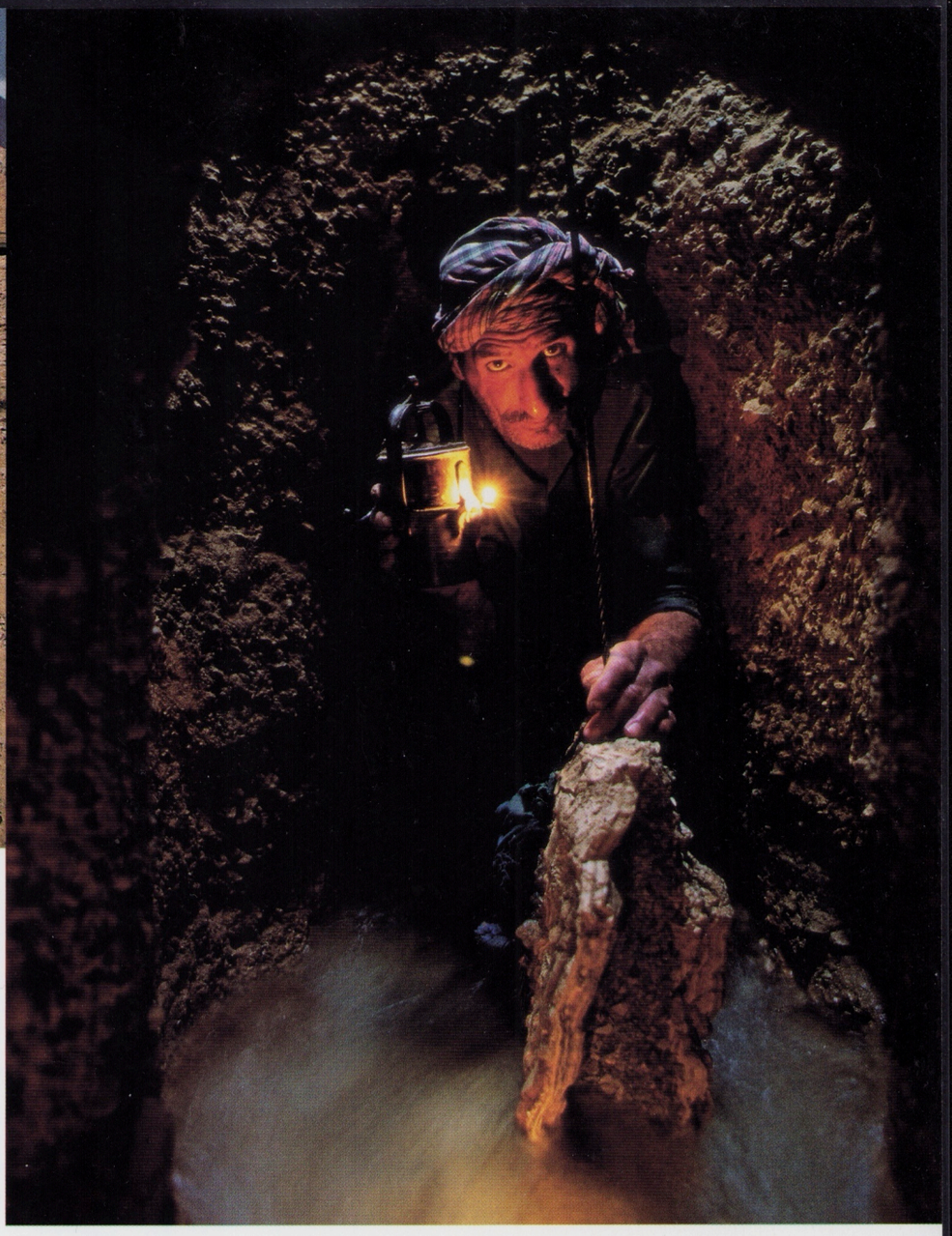
In Iran and throughout Central Asia today, this water-management system is often called by its original Persian name, *karez* (or *kariz*), which technically is an architectural word applied to the small feeder tunnels that flow into a larger subterranean aqueduct. The Arab countries, including Iraq, Syria, Jordan and Saudi Arabia, call them *qanat* (channel), and this Arabic word has become the most common generic term for this type of irrigation tunnel network. In Oman and the United Arab Emirates, the word is *falaj,* which means "division" or "arrangement." In North African countries such as Algeria, Tunisia and Libya, *foggara* is the common name; in Morocco it is *khettara.* And at the eastern extremity of their diffusion, in northwest China, among Turkic Uighurs the name is again back to karez, a reflection of its Persian roots as an import via the Silk Roads.

In Iran, most karez stretch five to 10 kilometers (3-6 mi), but some go on for more than 70 kilometers (44 mi). Perhaps



Near Akabli in south-central Algeria, an old qanat is being cleared, bucket by bucket, each one hauled 12 meters (38') to the surface.





Constructing and maintaining qanats has for centuries depended on skilled pairs of diggers, called *muqannis*, like Ahmad Zareh and Sayed Shukrallah, above, **who trade top and bottom tasks as they remove fallen debris and mineral deposits from a 2400-year-old working qanat near Yazd, Iran. Zareh,** right, **has been a muqanni since he was 10; in some places, qanats are falling out of use as younger men pass up the risky trade.** Previous spread: **Marked by the crater-like, covered entrances to access holes that can be tens or even hundreds of meters deep, a qanat network in central Iran carries water gently downhill from the Shir Kuh Mountains.**

as many as 20,000 remain in use, totaling some 275,000 kilometers (171,000 mi). Many of them are in the vast Iranian Plateau, a geological feature extending some 2000 kilometers (1250 mi) from the Zagros Mountains in the west to the Indus River valley in the east with an average rainfall of only about 15 to 25 centimeters (6-10") each year. As late as the mid-20th century, the karez delivered up to three-quarters of Iran's entire water supply.

In all places, the cross-section of a qanat tunnel is usually about one-and-one-half meters (5') tall and one meter wide—just enough to be dug and maintained by hand. The vertical shafts usually are spaced some 50 to 100 meters (164'-330') apart, and they connect to the water-bearing tunnel at depths of 10 to as much as 100 meters (32'-330').

Modern qanats are still constructed much like those of antiquity: Specialized diggers, in Arabic called *muqannis* (channelers), excavate first the vertical shafts, hauling dirt and rock up to the surface in buckets. If luck is with them, they will reach moisture at about 15 meters (50'), but they may have to dig much deeper. Eventually they begin work on the horizontal shafts, whose slope is determined by a surveyor.

Some qanats tap oasis aquifers, such as this one, right, **photographed in 1935, which watered date gardens in Qatif in eastern Saudi Arabia.**

LOWER RIGHT: JOE MOUNTAIN / SAUDI ARAMCO

Parts of Akabli's qanat system, above, **has had no maintenance for some three decades, yet it continues to provide ample water to local gardens,** lower, **where a farmer controls his irrigation by opening and closing small channels.**

Sometimes, when the soil quality is unstable, the muqannis may reinforce the shaft, tunnel or both with baked clay or stone. It is dangerous work. It is traditional for a muqanni to say a prayer before entering a shaft, and some will refuse to go underground on a day that is for any reason viewed as unlucky.

One of the earliest written records of qanat-building dates back to the eighth century BCE, and it was found in Assyria. It recorded that Assyrian king Sargon II, while on a military campaign in Persia, reported finding there an underground water system near Lake Urmia, in the northwest. Sargon's son Sennacherib, ruling in the seventh century BCE, adopted Persian techniques to build karez near his capital Nineveh and also at the city of Arbela.

In 525 BCE, the Persian Achaemenids conquered Pharaonic Egypt. Not many years later, the Persian king, Darius I, asked the Carian Greek explorer Scylax of Caryanda to build a karez system 160 kilometers (100 mi) west from the Nile Valley through the Libyan Desert to Kharga Oasis, which was one of the major stops on the lucrative caravan trade route known as *darb al-arba'in* (Forty Days Road). The late scholar H.E. Wulff noted in 1968 in *Scientific American* that "remnants of the qanat are still in operation" and, he speculated, this technology "may well have been partly responsible for the Egyptians' friendliness to their conqueror and their bestowal of the title of Pharaoh on Darius."

Later, trade and conquest served as a catalyst for the further expansion of qanat technology both east and west. Roman civil engineers employed qanats in conquered lands where their signature aqueduct technology proved unsuitable. For example, in Jordan, the so-called Gadara Aqueduct, which is a Roman structure unearthed about a decade

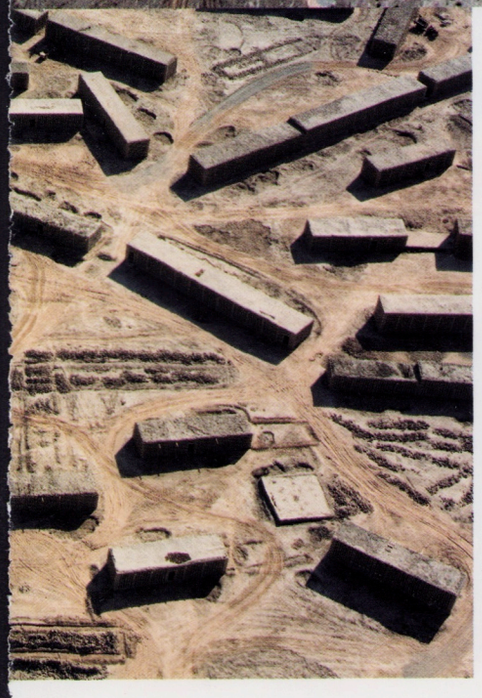
ago, is not a true aqueduct, but rather a subterranean water tunnel—a qanat—and at 170 kilometers (105 mi), it is the longest such tunnel of antiquity. The Gadara system, also known as *qanat firaun* or "Pharaoh's Qanat," was constructed after a visit by the Roman Emperor Hadrian in about 130 CE, and it partly follows the course of an earlier Hellenistic tunnel. The Roman version appears to have been unfinished, although it was put into service in sections.

In North Africa, the earliest qanats date from the second half of the first millennium BCE. There, archeologists and other experts trace the migration of the technology from Egypt to the Fezzan region of southwest Libya, which was inhabited by the Garamantes, and from there, it spread eastward across the Sahara to present-day Algeria and Morocco.

In the oases of Algeria, qanats—which became known as foggaras—enabled the development of new north-south caravan routes that built trade relations with sub-Saharan Africa. Archeologist Andrew Wilson of Oxford University, who has studied the foggaras of the west-central Sahara, says the oases "are today the zones of most highly developed foggara use anywhere outside Iran." Wilson notes that while traditional scholarship dates the establishment of the foggara as late as the 11th century CE, there may be "grounds for thinking it may go back to the seventh century if not earlier" based on "strong similarities, in construction and nomenclature," between Algerian foggaras and those of the Garamantes in Libya.

Timimoun is a small oasis town in Algeria's Gourara desert region, and it is known for its red ochre buildings as well as its substantial, still-operating foggara system that irrigates date palms and other crops. At the last formal count in 2001, the foggara here numbered about 250, but as local farmers increasingly turn to electrically pumped wells, the foggara are slowly going dry. The wells deplete the aquifer, and unlike foggara, wells can be drilled ever-deeper. This story is playing out all over Algeria, where United Nations water resource surveys have noted a decline from some 1400 active foggara in the recent past to some 900 now. While there have been recent efforts to rehabilitate some foggara that may date back to before Islam in the seventh century, the pressures on farmers to switch to more modern water-supply methods is unrelenting.

Baza Mohammed of the village of Oulad Said in Timimoun, Algeria, checks and cleans finger holes in barrier stones that regulate flow in water channels. Although the village is supplied by five major lines of qanat, which comprise some 250 branches totaling 80 kilometers (50 mi) in length, some are going dry as more farmers in the area install electric pumps that overdraw the water table.



In Turpan, which lies below sea level, numerous qanats, such as these above, **convey water from the foothills of the Tien Shan Mountains to cash crops such as grapes, which are dried into raisins in buildings such as these,** left.

concluded in 1968, "The qanat works of Iran were built on a scale that rivaled the great aqueducts of the Roman Empire. Whereas the Roman aqueducts now are only a historical curiosity," qanat technology "is still in use after 3000 years and has continually been expanded."

Although qanats in Iran and North Africa are declining, they still play significant roles there, as they do in northwest China, where they grow in length and number, which all says much about the timeless value of keeping precious water safely below ground, out of the sun.

Robert W. Lebling (lebling@yahoo.com) is an American writer, editor and communication specialist who lives and works in Saudi Arabia. He is author of *Legends of the Fire Spirits: Jinn and Genies from Arabia to Zanzibar* (I.B. Tauris, 2010 & 2014), and he is co-author, with Donna Pepperdine, of *Natural Remedies of Arabia* (Stacey International, 2006). He is a regular contributor to *Saudi Aramco World*. **George Steinmetz** (www.GeorgeSteinmetz.com) has been a regular contributor to *National Geographic* and *GEO* magazines for more than 25 years. He has won numerous awards for photography, including two first prizes from World Press Photo.

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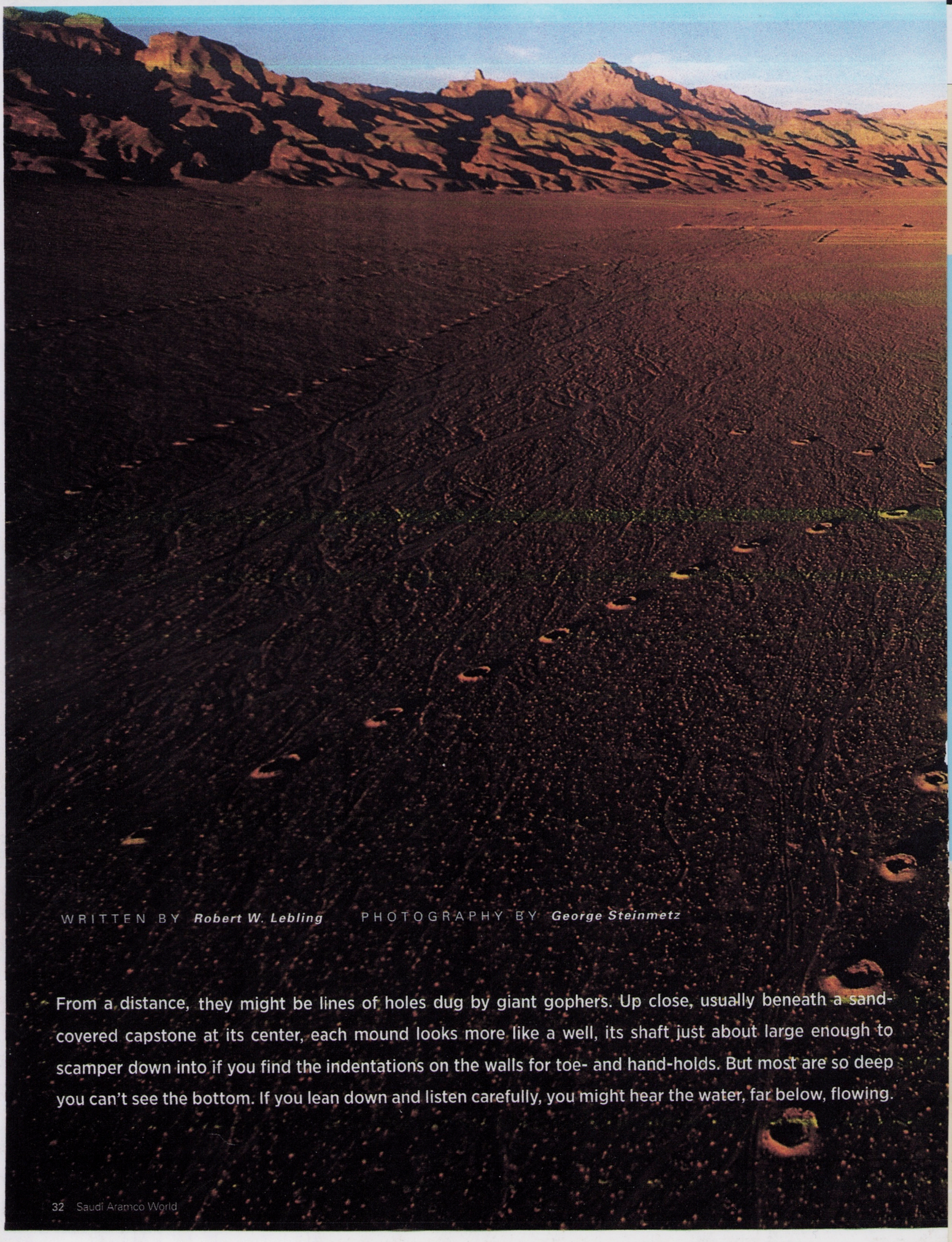


WRITTEN BY ***Robert W. Lebling*** PHOTOGRAPHY BY ***George Steinmetz***

From a distance, they might be lines of holes dug by giant gophers. Up close, usually beneath a sand-covered capstone at its center, each mound looks more like a well, its shaft just about large enough to scamper down into if you find the indentations on the walls for toe- and hand-holds. But most are so deep you can't see the bottom. If you lean down and listen carefully, you might hear the water, far below, flowing.

Los Angeles LA DWP Department of Water & Power

Recreation in the OWENS VALLEY

Brought to you by LADWP

Camping

Diaz Lake Campground
Portagee Joe Campground
Independence Creek Campground
Taboose Creek Campground
Tinemaha Campground
Baker Creek Campground
Brown's Schober Lane Campground
Millpond Recreation Area and Campground
Pleasant Valley Campground
Crowley Lake South Landing Campground
Brown's Owens River Campground
Camp High Sierra

Museums & Visitors Centers

Eastern California Museum in Independence

Interagency Visitor Center south of Lone Pine

Lone Pine Film Museum

Fishing

Grant Lake
Crowley Lake
Owens River
Millpond
Pleasant Valley Reservoir
Buckley Pond
Rawson Ponds
Duck Pond
Sanders Pond
Tinemaha Reservoir
Twin Lakes
Thibaut Ponds
Black Rock Canal
Goose Lake
Billy Lake
Twin Lakes
Pump Back Pond
Diaz Lake
Lower Owens River

Hunting

Everywhere – unless posted otherwise.

Parks

Lone Pine Park and
Lone Pine Sports Complex
Dehy Park in Independence
Mendenhall Park in Big Pine
Bishop City Park
Izaak Walton Park in Bishop
Mono County Park at Mono Lake

Golf

Mt. Whitney Golf Course in Lone Pine

Bishop Golf Course in Bishop

Trail Walking

Bishop Creek Canal
Big Pine Creek Canal
Owens Lake Trails

Water Sports

Grant Lake Reservoir
Crowley Lake
Klondike Lake
Diaz Lake

Now Open: Owens Lake Trails and Bird Watching Habitat

Enjoy the pristine Eastern Sierra courtesy of Los Angeles Department of Water and Power.
For more information visit http://wsoweb.ladwp.com/Aqueduct

/LADWP @LADWP /LADWP1

Monumental treasures

Historical plaques spread throughout the Eastern Sierra

Register staff

The Slim Princess chapter of E Clampus Vitus has been putting up plaques at historic locations throughout Inyo County since the early 1970s. With almost 50 monuments in Inyo County alone, searching for historical markets is a great way to get to know the region on a deeper level. The bronze plaques are set into large blocks of white stone and are easy to spot beside the highway or dotted along side roads. Here are a few to start the adventure but there are many more to find.

Laws

This monument commemorates the Carson Colorado Railroad and its role in early Owens Valley history.

Plaque is located at Laws Railroad Museum and Historic Site about 6 miles east of Bishop off U.S. Highway 6.

Keeler, End of the Line

From Mound House, Nevada, narrow gauge rails of the Carson & Colorado Co. reached this site in 1883.

Plaque is located at Keeler, opposite the old Railroad Station.

Westward Pass Toll Road

Westgaard Pass, named after A.L. Westgaard, was once considered to be part of a transcontinental route.

Plaque is located at Big Pine at the junction between U.S. Highway 395 and State Route 168 E. at the roadside rest area.

Cardinal Gold Mine

Gaylord Wilshire, for whom Wilshire Boulevard in Los Angeles was named, once owned a mine in Inyo County, which he described as, "the world's greatest."

Plaque is located 18 miles west of Bishop on State Route 168 W.

Charcoal Kilns

Plaque is located about 10 miles south of Lone Pine on U.S. Highway 395.

Courtesy Laws Museum and Historic Site

Samuel A. Bishop was the namesake for Bishop Creek and the town of Bishop.

Owensville

The first pioneer settlement in northern Owens Valley was built here in 1861.

Plaque is located 6 miles east of Bishop on U.S. Highway 6.

Cartago Boat Landing

Used as a landing for the steamer "Bessie Brady," this was an important stop between the mines of Cerro Gordo and Los Angeles.

Plaque located 1/2 mile south of Cartago, 20 miles south of Lone Pine.

Horace Marden Albright

Albright was the world's foremost conservationist and a founder of the U.S. National Park Service.

Plaque is located in Bishop at 207 W. Line Street.

Cerro Gordo

Inyo County's wealthiest mineral producer, this ghost town is responsible for the development of much of early Los Angeles.

Plaque is located at Keeler, State Route 136 at the Cerro Gordo turnoff.

Camp Independence

This early Inyo County settlement was established on July 4, 1862.

Plaque is located one mile north of Independence on Schabbell Lane near U.S. Highway 395.

Owens Valley

The Owens Valley extends from Bishop south for 100 miles.

Plaque is located approximately 20 miles north of Bishop on the scenic turn-out on Sherwin Grade, U.S. Highway 395.

The Edwards House

The Edwards House belonged to Thomas Edwards who lived in Independence. This is the oldest house in Inyo County.

Plaque is located in Independence on Market Street.

The San Francis Ranch

The San Francis Ranch was the original homestead of Samuel A. Bishop, namesake of the town of Bishop.

Plaque is located three miles west of Bishop on W. Line Street, State Route 168 W. at Red Hill Road.

Charley's Butte

Charley Typer was an African-American cowboy who died defending the McGee and Summers party from an Indian attack in 1863.

Plaque is located 12 miles south of Big Pine on U.S. Highway 395 just south of Poverty Hills.

Pine Creek Mines

The tungsten mines behind Mount Tom produced much of the tungsten used by the United States during the wars of the 1900s.

Plague is located 14 miles north of bishop on U.S. Highway 395 at the foot of Sherwin Grade.

Bishop Creek Power Plants

Built near the turn of the century, these power lines supplied electricity to the gold and silver mines in central Nevada.

Plaque is located 15 miles west of Bishop on State Route 168, Bishop Creek Road.

Movie Flat

Hundreds of TV shows, movies and commercials have been filmed in the Alabama Hills west of Lone Pine.

Plaque is located three miles west of Lone Pine on Whitney Portal Road.

Mt. Whitney Fish Hatchery

This historic facility was instrumental in saving California's state fish, the golden trout.

Plaque is located approximately five miles north of Independence at the fish hatchery.

The Alabama Gates

This location often played an important role in the water wars between the people of the Owens Valley and the Los Angeles Department of Water and Power.

Plaque is located eight miles north of Lone Pine on U.S. Highway 395.

100 mules mark 100-year milestone

Los Angeles Aqueduct anniversary commemorated with living art projects, protests and more

By Jon Klusmire

The pesky present kept interrupting efforts to ponder the past as the Owens Valley and Los Angeles marked the 100th anniversary of the completion of the Los Angeles Aqueduct.

The year-long series of events was either a celebration of one of the great engineering feats in the history of California and the West, or a lamentation of a century long unequal partnership. The only consensus was that, since the completion of the Los Angeles Aqueduct in 1913, the history of the Owens Valley and the city of Los Angeles has been inexorably intertwined, and so are their futures.

The aqueduct-related events, however, were not dry, academic affairs (pun intended). A colorful parade of protesters, multiple Mulhollands, Mary Austin and 100 mules marching made for a rather lively "commemoration."

The festivities kicked off in February when Los Angeles Department of Water and Power officials came to the Owens Valley to mark the 100-year birthday of the L.A. Aqueduct Intake. The concrete structure, whose four gates still channel the Owens River into the aqueduct at Aberdeen, was dedicated in 1913 by William Mulholland, the head honcho of the L.A. Water Department. Making an emotional appearance was Christine Mulholland, great-great-granddaughter of William.

Emotions also ran a bit high among those gathered to make a different point, namely that 100 years of water exports from the Owens Valley was really nothing to celebrate, nor were the century of environmental impacts and economic impacts borne by the Owens Valley. Owens Valley Paiutes reminded everyone their ancestors were the first to use and benefit from the valley's water.

Getting to the heart of the "L.A. stole the water" question was professor Abe Hoffman, who discussed how Mary Austin's husband, Stafford, who worked at the federal land office, was the primary "whistleblower"

Photo by Jon Klusmire

The Metabolic Studio's "100 Mules Walking the Los Angeles Aqueduct" mobile art and education project was a unique approach to commemorating the links between Los Angeles and the Owens Valley. The string of mules is shown approaching the Aqueduct Intake to start its 240-mile journey.

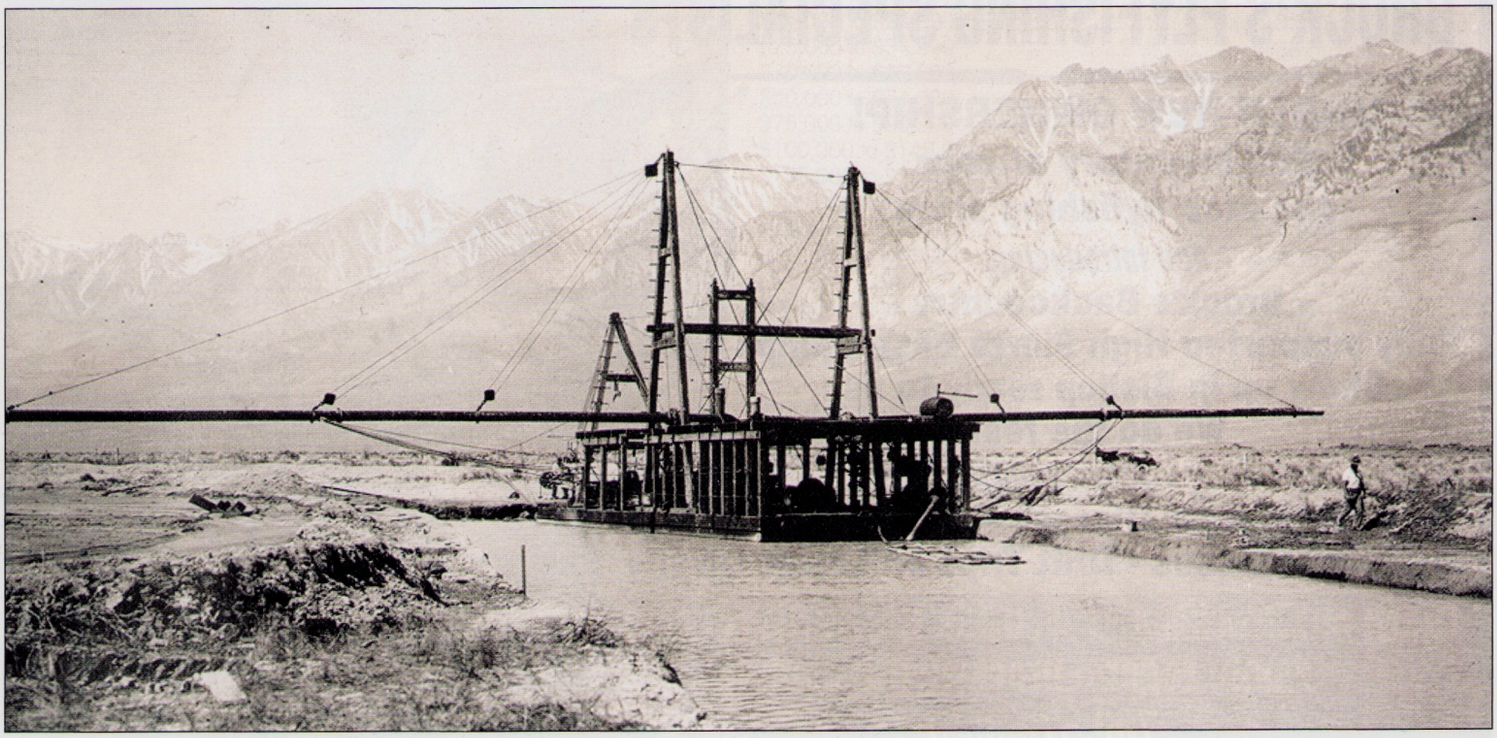


Photo courtesy Eastern California Museum

The Eastern California Museum exhibit, "Building Bill's Ditch," focuses on the construction of the Los Angeles Aqueduct, known as one of the great engineering feats of the 20th century.

A dive into L.A.'s water

This look at William Mulholland gets lost in the details of his aqueduct project

By Liz Brown 3-29-2015

Water to the Angels
William Mulholland, His Monumental Aqueduct, and the Rise of Los Angeles

Les Standiford
Ecco: 336 pp., $28.99

"Cattle were starving on the ranches in Antelope Valley. Lake Elizabeth had dried into a mudflat, and by July the city was consuming more water than was flowing into the storage reservoirs," writes Les Standiford in "Water to the Angels." This was 1904, several years into a severe drought, when William Mulholland set out to survey the Owens Valley for new water.

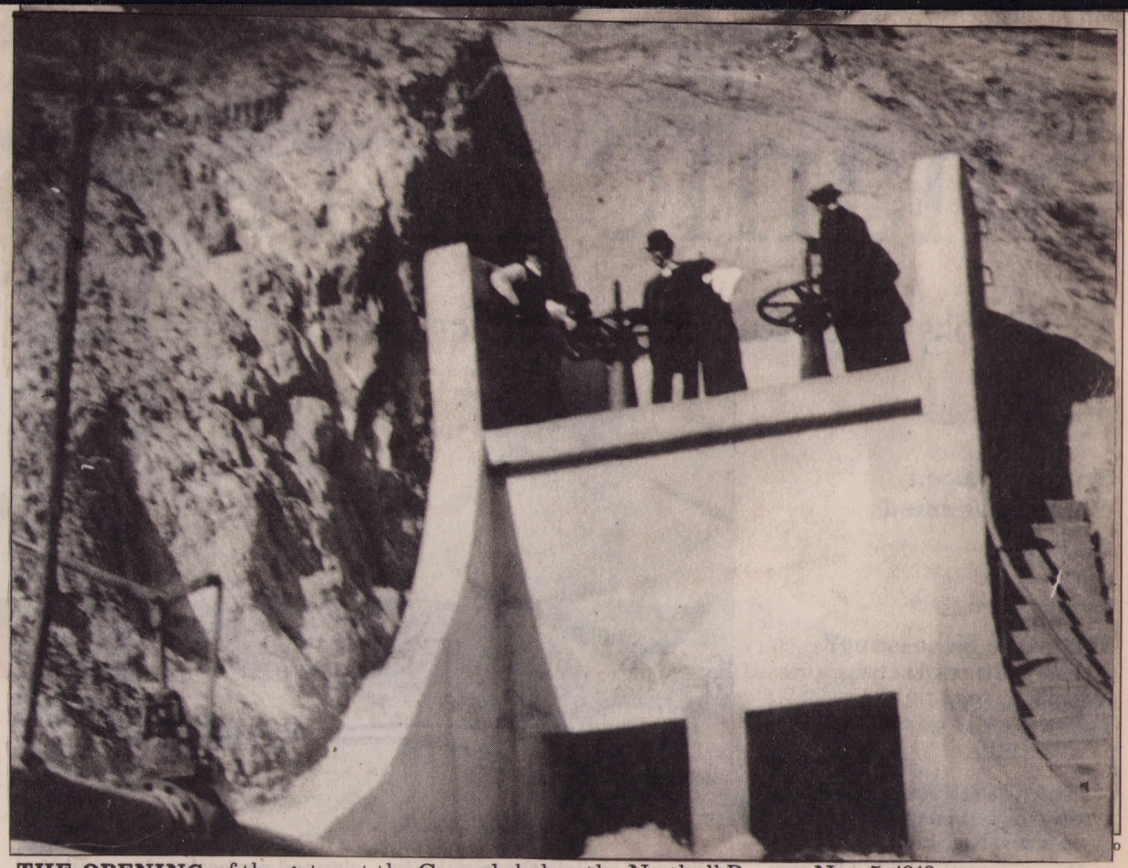
It's a disturbingly apt moment for a new book about the chief engineer of the Bureau of Water Works and Supply (later the Los Angeles Department of Water and Power), and his mission to bring water to a city with dwindling resources. William Mulholland's legacy looms large: From Mulholland Drive to the metal plates in the ground that say "LA Water," his traces are literally embedded in the city. And, of course, without him, Los Angeles would be without one of its most ominous cultural myths, "Chinatown."

Standiford's book starts, full of portent, on March 12, 1928, just before midnight with a man on a motorcycle making his way high above the Santa Clarita Valley. After curving past the St. Francis Dam, he pulls off the road to light a cigarette in the "clear mountain night." What came next was "the greatest civil engineering calamity of the twentieth century," the collapse of the dam, which sent "a wall of water catapulting down the ordinarily dry bed of the Santa Clara River, scouring a path a mile and a half wide all the way to the Pacific Ocean, fifty-four miles away." Between 400 and 600 people were killed.

It was the 19th dam Mulholland had built, and its failure was a crushing end to his lauded career. The author vividly captures the destruction and offers a glimpse of Mulholland, both steadfast and devastated, who never flinched from taking the blame for the disaster.

Unfortunately, in the chapters that follow Standiford doesn't sustain the suspense or atmosphere that marks the book's early pages. The author swiftly chronicles Mulholland's path from Ireland (born in Belfast in 1855) to his arrival in Los Angeles in 1877, then a town of 9,000, where he took a job as a ditch tender for the then-privately run Los Angeles City Water Co., rising quickly to pipe layer and eventually to superintendent of the company in 1886. When the city took ownership of the company, Mulholland came too.

From the beginning of his tenure Mulholland sounded warnings about the need for alternate sources of water, and by the early 1900s he was convinced that Owens Valley held the solution. And so comes the legendary battle between an ever-growing, ever-thirsty Los Angeles and the rural Owens Valley, shady land speculation deals, the construction of the aqueduct that lasted from 1907 to 1913, and Mulholland's famous invocation — "There it is. Take it." — when the water was finally released. The following years were marked by deadly "water wars," including several bombings, and extended litigation over reparations to the residents of the Owens Valley.



THE OPENING of the gates at the Cascade below the Newhall Pass on Nov. 5, 1913.

Standiford's strategy for conveying the scale and complexity of the aqueduct's construction, it seems, is to pile on details of competing bids, annual reports, bonus systems, revised deadlines and precinct vote tallies. Rather than explore the drama of personality flaws or clashes, the author relies on logistical quandaries for suspense: "How to transport a section of steel pipe thirty-seven feet long and one and one-eighth inches thick weighing 52,000 pounds, up several miles of dirt road?" As a result, the book comes closer to a project-management assessment than a historical narrative or a portrait of a man and his motivations.

Standiford's admiration for his subject is evident: Mulholland was "practical-minded." He disdained petty politics. The author refers frequently to Catherine Mulholland's biography of her grandfather, "William Mulholland and the Rise of Los Angeles," and readers looking for a more fully dimensional portrait of the man will find it in that earlier book.

Given California's withering drought today, an examination of Mulholland could offer material for our current conversation as the choices he made continue to reverberate, but "Water to the Angels" doesn't do that. At the outset, Standiford says he doesn't intend to examine the divisive water politics that have marked Los Angeles' history, and he doesn't. Nor does he engage any discussion of sustainability.

Toward the end of the book, the author briefly entertains a scenario in which the Owens Valley waters had not been diverted to Los Angeles but instead used to irrigate the surrounding land. He imagines there would now be alfalfa crops, vegetable farming, and three to four times as many residents in the valley and is quick to add "[b]ut it is just as easy to argue that had William Mulholland not fought for and built the Los Angeles Aqueduct, Southern California as we now know it would not exist."

Indeed. And how much longer can the Southern California we now know exist? This is not a question Standiford asks, but it certainly haunted Mulholland in his lifetime and hangs over ours.

Brown is the author of the forthcoming biography "Twilight Man: The Strange Life and Times of Harrison Post."

No flow from Owens Valley

MONTE MORIN

BRIAN VAN DER BRUG Los Angeles Times

JIM YANNOTTA of the Department of Water and Power passes a temporary dam in the Los Angeles Aqueduct. The drought has forced the DWP to halt the flow to L.A. to meet obligations in the Owens Valley.

For the first time since 1913 — when Department of Water and Power chief architect William Mulholland opened the waterway with the words, "There it is. Take it!" — the 233-mile Los Angeles Aqueduct has stopped carrying Owens Valley runoff to Los Angeles.

As severe drought continues to grip California, the DWP confirmed Thursday that it had dammed the aqueduct at Owens Lake to conserve meager Eastern Sierra snow runoff.

"That's how bad this drought is," said LADWP spokeswoman Amanda Parsons. "We've never kept the water in the valley before. This is unprecedented."

The 8-foot-tall dam, which is constructed of concrete blocks, reeds and mud, will remain in place at least until November so the LADWP can fulfill a variety of mandated obligations, including dust mitigation, tribal land requirements and assisting the Lower Owens River Project — the nation's largest river restoration effort.

Roughly 10,000 acre-feet of water saved from last year's runoff will be exported to Los Angeles from a storage area south of the dam between now and sometime after November, Parsons said.

"Basically, we will not be exporting any water from the Eastern Sierra runoff to Los Angeles this year until November, and when we do it will be only 15% of what Los Angeles would typically receive during an average year," Parsons said.

Usually, the aqueduct supplies Los Angeles with a third of its water.

The dam, which Parsons described as looking "half human and half beaver," is at the southern end of Owens Lake.

"On one side there's heightened water, but on the other there's nothing but a trickle," Parsons said. "That's because no dam is perfect, and a little bit of water seeps out, but there's not enough to actually make its way down the aqueduct."

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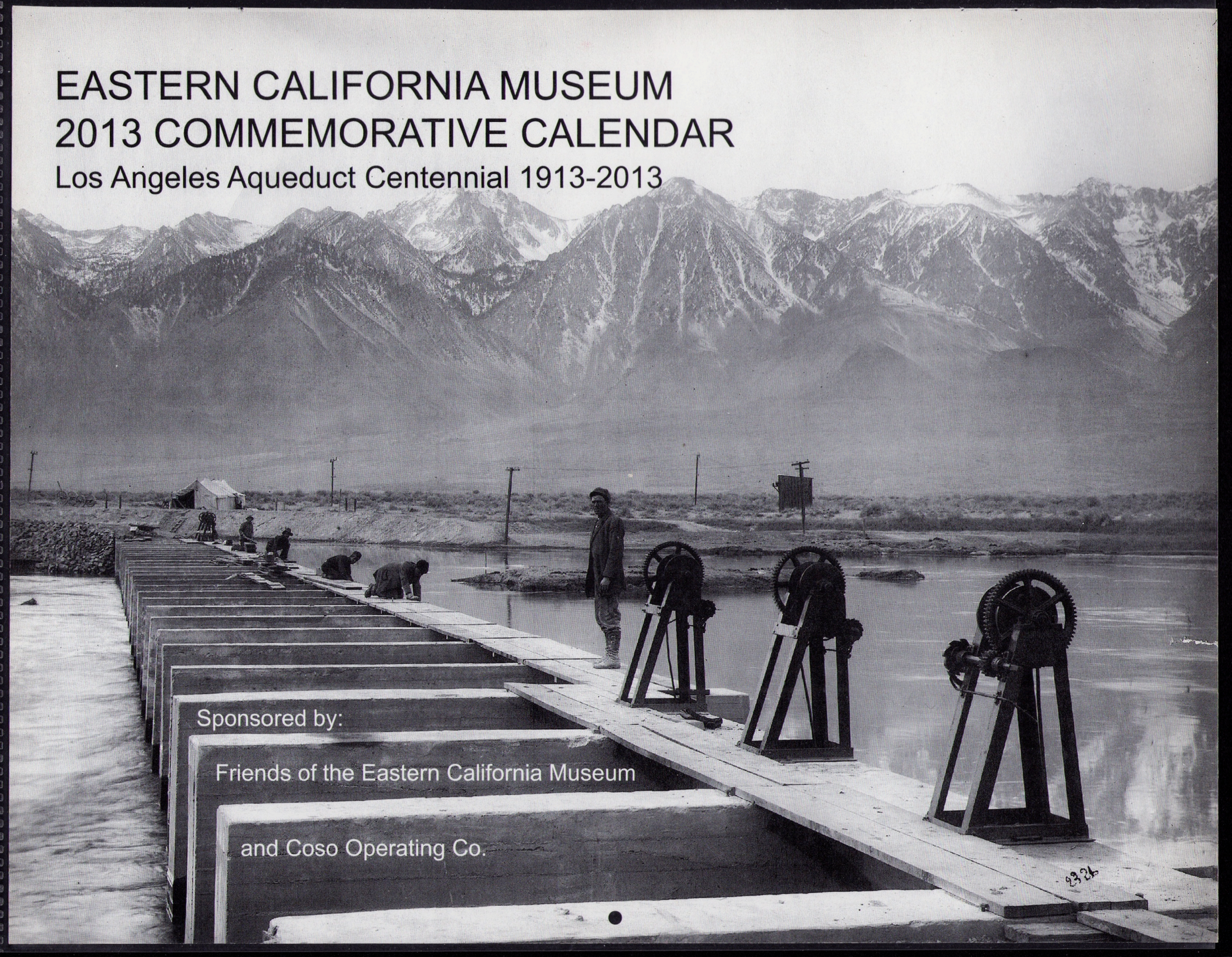
EASTERN CALIFORNIA MUSEUM
2013 COMMEMORATIVE CALENDAR

Los Angeles Aqueduct Centennial 1913-2013



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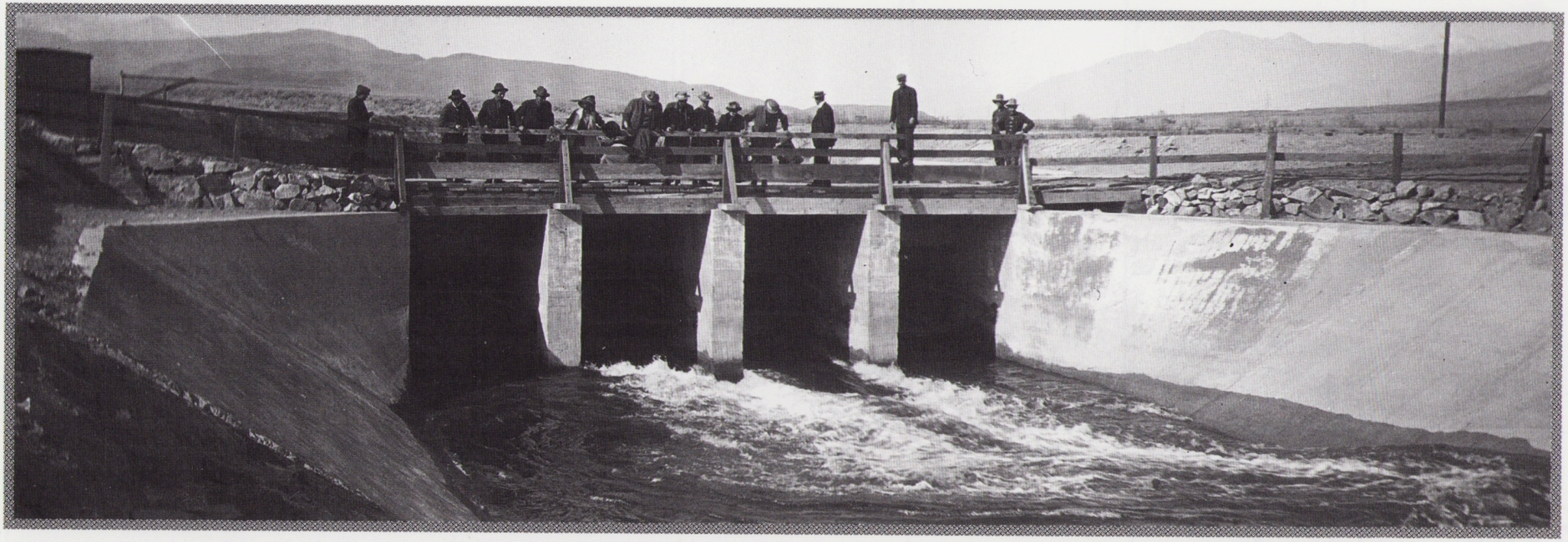
A surging Owens River overwhelmed and overflowed the initial work on the Aqueduct Intake and diversion weir, located east of Aberdeen between Big Pine and Independence. JONES 54-A

On Feb. 13, 1913, dignitaries from the City of Los Angeles and the Los Angeles Water Department, including William Mulholland, watched Bessie Van Norman break a champagne bottle on the Aqueduct Intake (top). They opened the gates and then turned and watched (below) as Owens River water started its 238-mile long journey to Los Angeles. LEAH 21 and 5



A young couple strikes a daring pose on the bucket of one of the steam shovels used to dig “the ditch,” as the Aqueduct was called by those laboring on the massive project. The man in the photo was most likely a high-ranking Water Department employee. LEAH 47

An electric-powered shovel chews through the rocky earth on the section of Aqueduct south of Lone Pine. LEAH 48

Men hustle up and down the walls of the Aqueduct to prepare for pouring the concrete that will line the Aqueduct as it passes through the Cottonwood Creek area between Olancha and Lone Pine. LEAH 34

This diverse and hearty group of laborers is shown at one of the many work camps that sprung up to house and feed the thousands of men who built the Los Angeles Aqueduct. At any given time, about 5,000 men were at work on the project during the five-year construction period, from 1908-1913. The work was hard, conditions were tough, and not many stayed long. Overall, about 100,000 men found jobs building the Aqueduct. ROS 179

This gangly contraption is a “suction dredge,” powered by electricity generated by the Division Creek Power Plant, shown digging out, then floating down the unlined portion of the Aqueduct, which stretched 21 miles from the Intake across from Aberdeen, to the Alabama Gates, between Independence and Lone Pine. GUN 454

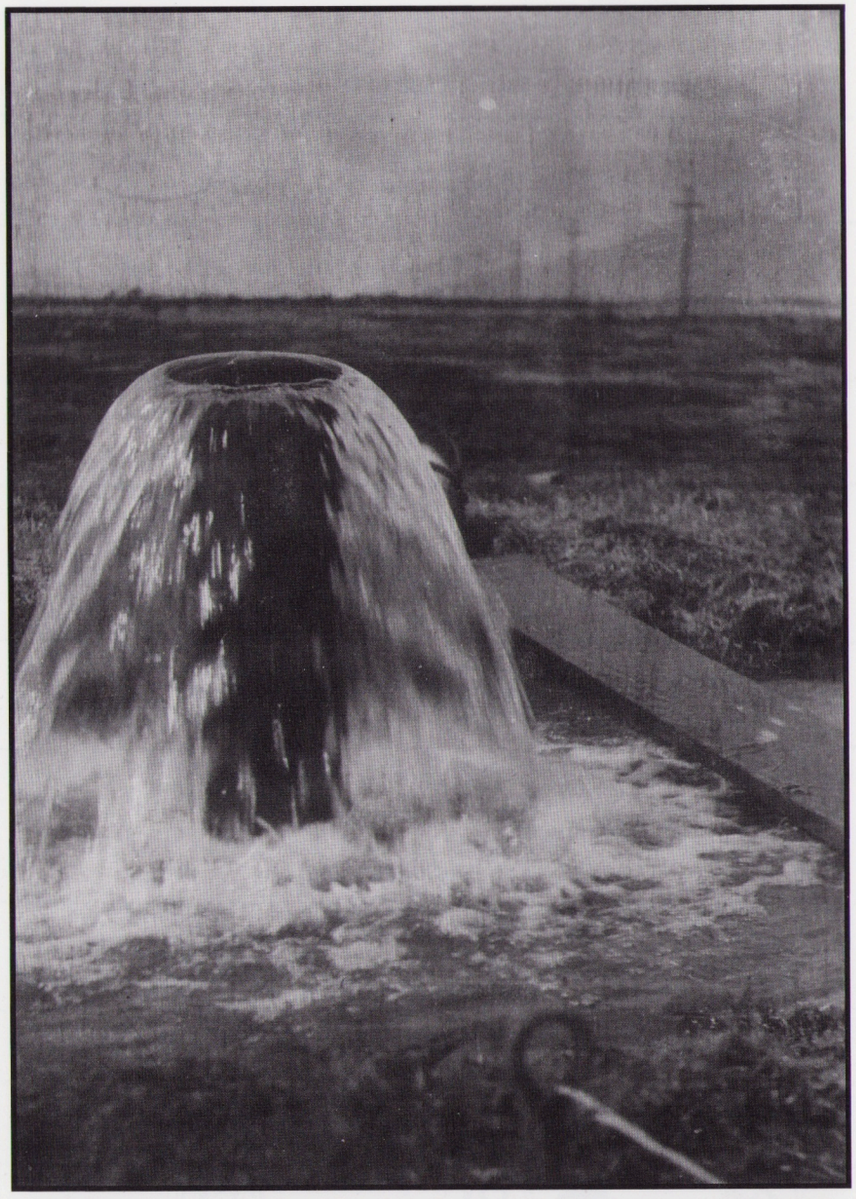
Precise concrete arches produced a symmetrical look at the Alabama Gates, located between Independence and Lone Pine. Later, a building would be placed atop the Gates, and a long, concrete spillway added to direct water to the valley floor. The gates mark the beginning of the concrete-lined portion of the Aqueduct. ROS 232

This “dipper dredge” was also electric-powered, and used the large shovel to carve its watery path down “the ditch.” Standing on top of the wooden beam in front is Lone Pine resident Russ Spainhower. LAWP 35

The Horseshoe

This section of concrete-lined Aqueduct in the Olancha area shows how the Aqueduct's engineers solved several common problems as the Aqueduct traversed the hillside above the valley floor. The Aqueduct was contoured to fit the landscape it moved through, thus the sweeping curve, which was less expensive and less exposed than a bridge, for example. The trick, as was the case for the entire 238-mile long Aqueduct, was to maintain sufficient "grade" or "drop" to keep the water moving downhill for the length of the gravity fed Aqueduct. JONES 312

The bright, concrete lined, soon-to-be filled Los Angeles Aqueduct looks like a surreal snake sliding through the desert landscape heading to Haiwee Reservoir. Starting at the Reservoir, a system of pipes, siphons, and tunnels delivered Owens Valley water to its final destination in Los Angeles. ROS 234



While building the Aqueduct, crews also drilled artesian wells, which released water from the groundwater aquifer on the valley floor. This is one of the first of those artesian wells, drilled in 1910, east of Independence near the Aqueduct.

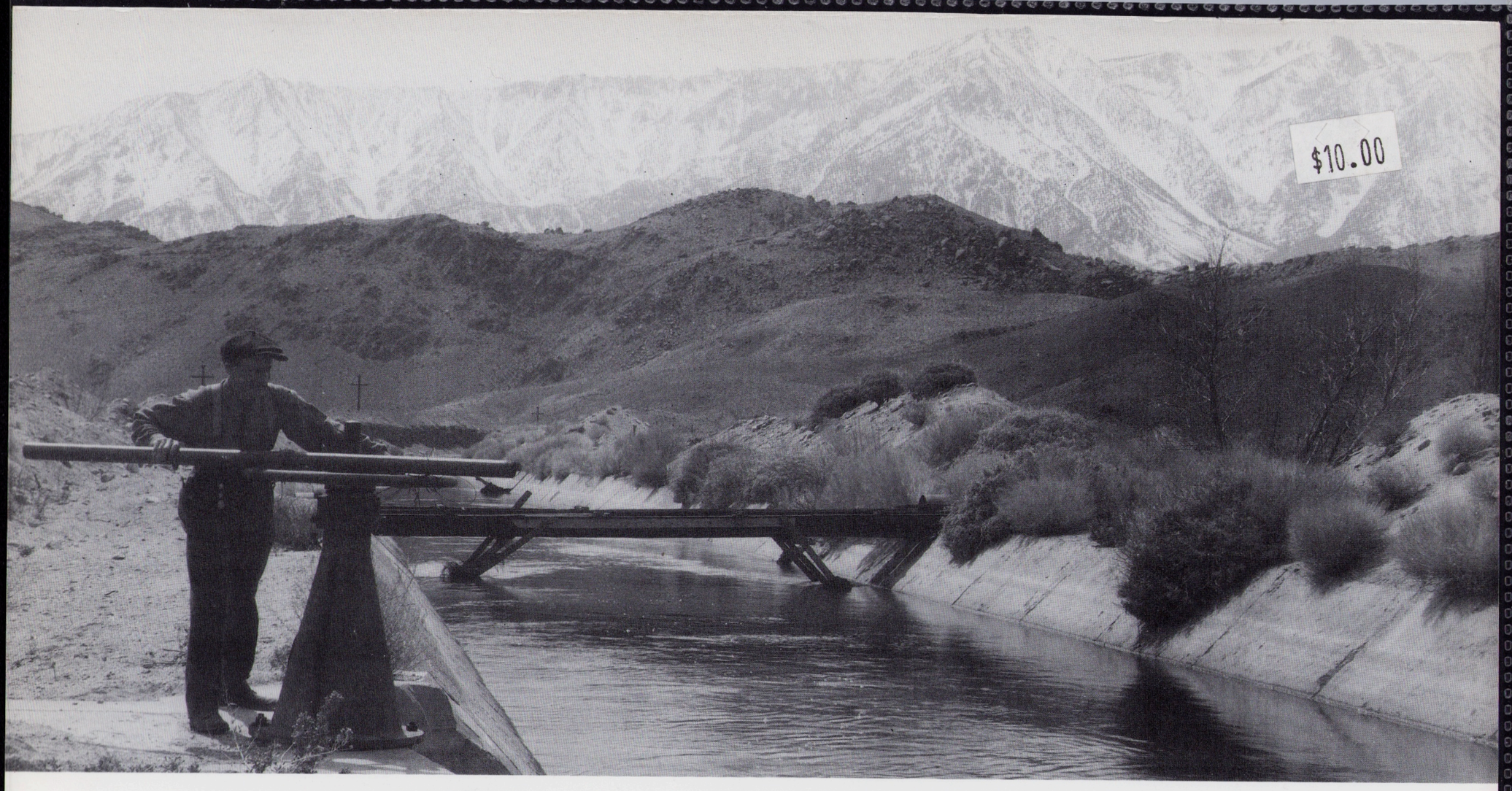
HILD 22-B

Bessie Van Norman, in her most glamorous, and warm Victorian formal dress, hat and muff, stands at the rough and unglamorous Aqueduct Intake in Feb. 1913, after christening the structure with champagne. She was the wife of Harvey Van Norman, who supervised construction on several sections of the Aqueduct. The couple lived in Independence at the time.

ROS 183

Owens River water splashes down The Cascades on Nov. 5, 1913, signaling the successful completion of the Los Angles Aqueduct. As a construction and engineering feat, the Aqueduct was compared to the Panama Canal and other monumental man-made structures. As thousands of Los Angeles citizens watched, Chief Engineer William Mulholland raised an American flag, signaling the men at the top of the Cascade to turn the valve that would let the water flow. As the water swept down the concrete-lined "river" the roar of the crowd and general confusion unsettled Mulholland just as he started to symbolically "deliver" the precious water to the Mayor of Los Angeles. Instead of making his prepared remarks, Mulholland uttered one of the most famous phrases in California history: "There it is - take it." HAR 23

The smaller, wood building on the right is the first Division Creek Power Plant, a 120-kilowatt hydroelectric power plant that was built to supply electricity for the construction of the Los Angeles Aqueduct. The electricity powered dredges and other equipment, and was also used in the construction camps. The Aqueduct was the first project of its scope and scale to use electric power for construction. The larger, concrete power plant was built after the Aqueduct was complete, and is still in use today, as is the Cottonwood Power Plant, south of Lone Pine, LEAH 14



After its completion in 1913, the Los Angeles Aqueduct (shown near Lone Pine) has delivered water to Los Angeles with few significant interruptions for the past 100 years, and still supplies the city with millions of gallons of water a year. RAM 1987

This calendar was made possible by the ongoing support of the Eastern California Museum by the County of Inyo Board of Supervisors; a generous donation from the non-profit Friends of the Eastern California Museum (P.O. Box 33, Independence, CA 92526, www.fecm33.org), and a special donation from Coso Operating Company – Terra-Gen Power, LLC, which operates the Coso Geothermal Plant, in Inyo County, and is one of the largest producers of renewable energy in the West (www.terra-genpower.com).

All the photos in this calendar are the property of the Eastern California Museum, 155 N. Grant St., Independence. The Museum will be commemorating the Centennial of the LA Aqueduct throughout 2013 with exhibits in the Museum, a speaker series and a film series. For more information, call 760-878-0258, visit www.inyocounty.us/ecmuseum, or follow us on Facebook.

Gorman, Valentine F.
Independence, Calif.

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Municipal League of Los Angeles

Bulletin

LIGHT ON YOUR CITY'S AFFAIRS

VOLUME 1 | JULY 15, 1924 | NUMBER 12

The Owens Valley "Revolt"

R. E. Chadwick, member of the Executive Committee of the Municipal League, very generously donated his time, his car and his expert skill as driver, so that, with him, Secretary Pratt and Associate Secretary Borough might make a thorough investigation on the spot of the difficulties that have arisen over water between the city of Los Angeles and the dwellers in Owens River Valley.

Following are the findings of the three investigators as reported to the Executive Committee of the League by Associate Secretary R. W. Borough at its meeting Friday, July 11th.

May 6, at 1:20 a. m., the Los Angeles aqueduct was dynamited several miles above Lone Pine in the Owens Valley, Inyo County. The explosion ripped out a spillway gate and tore loose large pieces of aqueduct concrete near the gate, depositing them on both sides of the ditch. The sloping wall of the aqueduct, however, was damaged only above the present flow line. No water was lost to the city. The break was quickly repaired by the city's water department at a cost of $2,500.

News of the event brought Los Angeles County investigators into the valley. Sheriff Charles A. Collins, of Inyo County, who, at the time, was hunting for an aged pioneer lost in the mountains, hurried back to Independence. He found public sentiment so inflamed, he says, that he was unable to obtain information justifying arrests and further could not have secured convictions if the arrests had been made.

A Warning

The dynamiting, according to Inyo County residents, had been planned, not to destroy Los Angeles' water system, but to warn the city to stop dealing with the ranchers individually for their land and water rights.

Shortly afterward, an "order" to leave the country was directed to three men, said to have acted as Los Angeles agents in the forbidden purchases: George Watterson, uncle of W. W. Watterson, of the Inyo County Bank, but, unlike his uncle, friendly to the city; William Symons, a former official of the McNally Ditch company; and L. C. Hall, attorney, all residents of the Bishop district.

The same ultimatum was delivered to George Warren, of Big Pine, farther south in the valley, but Warren's fellow townsmen are said to have warned the Bishop contingent to keep hands off and the sheriff announced: "This business of running folks out of the valley has got to stop."

Despite the sheriff's efforts at "pacifying" the valley, the visitor hears much of impending "civil war."

Issue Not a Simple One

Discounting much of what he hears as sheer bluff, an abservant visitor must nevertheless admit an ugly situation. And an important factor is the city's program of the past 18 months of buying out the ranchers individually with the result that those who refuse to sell are isolated in areas containing farms

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which the city has allowed to lapse back to semi-desert conditions. But the conclusion that this is the only factor should not be too quickly drawn. The Owens Valley story is not a simple tale of a big city wronging a few ranchers.

In the first place, it should be noted that sentiment in the southern end of the valley, including the towns of Big Pine, Independence, and Lone Pine, is friendly to Los Angeles.

A merchant in one of these towns takes this typical view:

"The city has paid good prices for the land it bought around here. The people as a whole are satisfied.

"Land in the valley is of little value agriculturally. It approximates only a crop every two years. Winds and frosts interfere with fruit and when there is a good crop there is no price.

"Further, distance from Los Angeles, our market, prevents us from competing with other growing areas in Southern California. Los Angeles is a cheap market.

"The city has brought into the lower end of the valley cheap light and power.

"This country's future lies in developing the Los Angeles tourist trade. We make more money sitting here and selling the tourists gas and other things than we could make raising cheap alfalfa."

Five Somewhat Distinct Groups

To understand the unfriendly feeling in the northern end of the valley, we must consider at least five groups: the Eaton Land and Cattle Company, the Inyo County Bank, the Longyear Ranch interests, the Southern Sierras Power Company, and the dirt farmers.

First, as to the Eaton Land and Cattle Company.

Dealing with the ranchers individually, the city has bought the following percentages of stock in the Owens Valley canal and ditch companies:

Big Pine 96 per cent, A. O. Collins 96, Dell 100, Rawson 45, George Collins 100, Lower McNally 82, Upper McNally more than 50, Farmers 15, Bishop 23, and Owen's River 2 per cent.

The theory on which the city proceeded was that, to the extent of its stock ownership, it would be able to reduce diversion of water upon Owens Valley lands, keeping the water in the river and passing it into the aqueduct intake below Big Pine. It has so far failed in its purpose. It has spent around **$3,500,000** in the purchase of land and water rights and it has reduced diversion on the upper ditches only to have the river's resulting extra flow spread upon the land irrigated from the ditches below.

To determine its rights to this water and to prevent its diversion by the ranchers the city has brought suit against 18 canal companies and individuals in the valley. The case is set for trial August 18 in the superior court of Inyo County at Independence.

The Eaton Land and Water Co.

"We feel," says S. B. Robinson, special counsel for the city, "that when the case is finally settled the city will receive a very substantial part of the water now coming down the river."

And that is just the culmination which the Eaton Land and Water Company and its owner, former Mayor Fred Eaton, would, naturally, NOT want.

Eaton owns 17,000 acres in Long Valley on which his cattle now graze but which would be flooded if water were to be piled up in the valley behind a 150-foot dam. Residents of Bishop estimate its value for grazing purposes at from $10 to $15 an acre, giving a figure of from $170,000 to $255,000 for the whole, but Eaton's estimate, according to report, is much higher. He is reputed to have set the price, first at **$900,000,** then at **$1,500,000,** and finally at **$3,000,000.**

His interest, it will be seen, would logically dictate opposition to any policy that might develop water for the city without the bulding of the high dam.

The Wattersons as Bankers Only

Second, as to the Inyo County Bank and the Watterson brothers.

This bank holds mortgages on 141 farms in the valley, aggregating $452,050 and bearing interest at rates varying from 8 to 13 per cent. Individual bargaining results in isolating unpurchased ranches in areas that will revert to a relatively unimproved condition. Land values that existed by reason of the community life are thus wiped out. The Wattersons would be expected to resist any move that might threaten the security of their mortgages.

In addition to this direct interest, they are also indirectly involved through ownership in Bshop commercial establishments and through loans to merchants. They do not want to see the town slip back as a trade center.

The Wattersons as Land Speculators

But we must differentiate between the Wattersons in the role of defenders of their mortgages and their merchant profits and the Wattersons trying to maneuver the city into a position in which it may be forced to pay exorbitant prices for valley land to be "dried up" as well as heavy damages for loss of value to town properties.

The Watterson group says it wants the city to deal with the valley interests collectively and that as to price it will abide by the decision of a "fair valuation commisson" composed of "dstinterested business men". But **Harry A. Glasscock,** editor of the Herald, a Bishop newspaper, and spokesman of the Watterson group, said to Municipal League representatives:

"We won't deal with the public service commission because they are not decent men."

When the League's secretary asked the editor if the valley wouldn't have to deal with the public service commission ultimately, he replied heatedly:

"The Hell we do—well, then, we won't deal at all."

Power Through Control of Credit

The Wattersons, it should be further remembered, would be in a dominating position among the groups dealing with the city "collectively." Their voice would be heard more loudly than the ranchers in the deliberations. Through their power of mortgage foreclosure and their direct or indirect control of the local press (property of Harry A. Glasscock, of the Herald, is mortgaged to the Inyo County Bank for $1,500) they are in a position to whip public sentiment into line and silence open opposition to their views. **The first consderation of Los Angeles should be to get right, and stay right, not with the Wattersons, the Longyears, the Eatons, or the Southern Sierras Power Company, but with the actual wealth producers of the valley, the dirt farmers.**

As to the Longyear Interests

The record owner of the so-called Longyear ranch, formerly the Inyo Syndicate ranch, is D. M. Longyear, son of W. D. Longyear, vice-president of the Security Trust and Savings Bank of Los Angeles. Elsewhere in this bulletin we have an article discussing this group under the caption, "What Longyear Wants".

The Longyear interests had in mind extensive subdivision and improvement schemes at the time the city began buying in ranches 18 months ago. If the city deals with the valley interests collectively for the purpose of buying out the 28,000 acres around Bishop, as the Wattersons propose, it seems certain the Longyears will insist upon recognition of values purely speculative.

The Southern Sierras Power Company

This corporation, according to representatives of the city, wants to sell out to Los Angeles. Its holdings in the Mono basin north of Owens Valley and on the Owens Gorge and Bishop Creek are a long way from its market in Riverside and San Bernardino counties, requiring 450-mile transmission, and, as its power sales are made in small blocks to small towns and scattered ranches, its system is alleged to

be uneconomical.

Water development in the Mono Basin, tied into the proposed Long Valley reservoir, would give Los Angeles, the company's friends claim, 200,000 horse-power on the Owens Gorge and 140,000 horse-power in San Francisquito canyon—a total of 340,000 horse-power as against 70,000 horse-power developed on the aqueduct now.

Reliable figures as to the probable cost of this project are not at this time available to the League's representatives.

The subject is raised here to indicate the community of interest of the power corporation in question and some of the groups opposed to the city's acquiring water rights by individual bargaining with the ranchers. If such bargaining had succeeded, Long Valley storage would have been unnecessary for the time and without this storage the argument for the city's purchase of the power corporation's system loses force. Mono Basin development by the city would have to be tied into Long Valley storage if its highest productivity as to power and water is to be achieved.

It is highly significant, too, that one of the "eminent engineers" whom the newspapers opposing the public service department have quoted most widely in favor of Long Valley storage is **Thomas B. Means**, consulting engineer for the Southern Sierras Power Company.

Farmer Also Speculator

Finally, as to the bona fide ranchers. What is their case against the city?

Inquiry among them disclosed two attitudes, often expressed by the same individual, one of which may be summed up as follows:

"Leave us alone. You're ruining our homes. You city folks may not know what homes mean but we do and we're going to fight for them. Stop buying us out or there'll be civil war."

Sympathy for this attitude should not prevent an accurate statement of the situation. It is not true, as some people suppose, that Los Angeles completely "dries up" the purchased lands. The city endeavors to lease these lands and in a series of normal years might divert water generously upon them for the benefit of its tenants. But even under these favorable conditions, the ranchers point out, the improvements and the character of the community would not compare with the results obtained when the land is worked by an owner.

The other attitude, expressed by some of the ranchers, is very little different from that of the speculator. **Among some of the valley residents protesting loudly their desire to be left alone there is a surprising willingness to sell—at the right price!**

Price Expected If City Buys

W. R. McCarthy, district engineer of the Inyo County Irrigation District, recently formed to take over the Owens Valley irrigation ditches, gives the land that might be purchased by the city as follows:

Under McNally and Sanger Ditches	4,500 acres
Under Rawson Ditch.....	4,500 acres
Under Owens River Canal.....	19,000 acres
Total	28,000 acres

And he adds: "Eighteen thousand acres of it is cultivated highly. Ten thousand acres is grazing land. It would cost the city **$300** an acre right straight through."

That McCarthy represents the sentiment of a considerable percentage of the land owners in the irrigation district is probable.

What about this price?

Prominent Realtor's View

Mr. Joralmon, of the Campbell-Joralmon Company, of Los Angeles, recognized authorities on farm land values in Southern California, says:

"Good alfalfa land in the Owens Valley is worth from $200 to $250 an acre; pasture land, from $50 to $75. I sold good land up there two or three years ago as low as $85 to $100 an acre.

"You can't buy good alfalfa land around Chino, 38 miles east of Los Angeles, for less than $450 to $500 an acre. I should say Owens Valley land is worth about half as much.

"The money in alfalfa is in feeding it. Chino feeds it and ships fresh milk into the city. Owens Valley, because of the distance, can't do that. Chino therefore gets about twice as much for its butter fat as Owens Valley."

A city official states that, on 25,000 acres purchased in the past 18 months for a total price of $3,600,000, the city paid on an average four times the assessed valuation. He further says that on purchases on the McNally Ditch, including grazing and the other cheaper lands and totaling $1,079,000, the city paid on an average $140 an acre.

Mr. Joralmon's statement would seem to back up William Mulholland's contention that the city has bought "in a free, liberal way".

Moreover, it is well for Los Angeles citizens to remember that while the water department, through its agents, may have been tactless at times in dealing with the ranchers, it has never been charged with treachery to the city's interests.

Forced to Individual Purchasing

The unbiased investigator, too, will consider that individual purchasng by the city was a natural result of the factional strife that has troubled the valley for years. The early inter-ditch wars have left their legacy of sectional jealousies. Los Angeles has tried, and found it difficult, to deal with the ranchers collectively. Less than four years ago the city proposed an agreement with 11 ditch companies providing for the building of a 100-foot dam and the storage of Owens River and Rock Creek waters in Long Valley. Under the agreement, if the 100-foot dam proved feasible, its height was to be increased to 150 feet. A storage of **68,000** acre feet would have been made possible by the lower structure and of **340,000** acre feet by the higher. The plan, though endorsed by representative ranchers of the Associated Ditches, was blocked by failure of the ranchers to reach an agreement as to water rights, the contention being that it would not assure the ranchers sufficient water in a dry year.

In fairness to the public service department it should be further remembered that in serving the community which it represented it was faced by two unexpected developments—the city's phenomenal growth and a series of unusually dry years.

Test Storage First by 100 Ft. Dam

As to the development of storage, it should be noted that the practicability of the 150-foot dam proposed by the Eaton-Longyear-Watterson interests is open to question. Prudence would dictate that before the higher dam were built the city should assure itself of the possibilities of storage behind a 100-foot structure. The rock formation at the dam site is of such a character as to raise a serious question in the minds of William Mulholland and other engineres as to the permanency of storage of even the smaller reservoir.

A superficial examination by the League's representatives disclosed the fact that the rock at the point where exploration work was done in 1921 is of the variety known as tufa, of light and porous character and cut by deep fissures.

The view has been expressed that even if the larger reservoir had been provided it would have been empty now.

The question is one for engineers, not laymen, to decide and until it is decided, no fair-minded person would insist that the city suddenly plunge into a program that would, if carried out without delay, necessitate the city's purchase of $200,000 or $300,000 worth of grazing land at a fancy price of several millions of dollars. The city, it will be recalled, was blocked

(Continued on Page 4)

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Bulletin Published Monthly
One Dollar per Year
Included in Membership Dues

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EDITORIAL

THE FARCE OF SELECTING JUDGES BY POPULAR VOTE

In the next issue of the Bulletin we shall give the results of our investigation into the character and qualifications of all candidates for Superior Court judgeships, for the office of District Attorney, and for membership on the Board of Supervisors.

The voters, up to the limit of our 10,000 circulation, will thus be given from a non-partisan, disinterested source, information designed to assist them in marking their ballots.

A special committee of the League has been appointed to go over the situation as soon as all the candidates have announced themselves and to suggest to the Executive Committee of the League whether, in specific cases, recommendations shall accompany our information regarding candidates or not.

To require the average layman, who has rarely, if ever, entered a court room or considered questions of law, to pass judgment through the ballot box as to which fourteen out of sixty or more candidates are best qualified to sit as judges in our Superior Courts, or to conduct the office of District Attorney and to represent the people before those courts, is surely making a farce of popular government.

Probably no candidate who has not the friendly cooperation and favorable publicity of the leading daily papers can entertain any strong hope of being elected in a Los Angeles city-wide primary. Furthermore, with the papers playing together through the Community Development Association, no candidate could land who is not acceptable to that small coterie of men.

There are doubtless some here and there who put the stamp of approval on the Community Development Association as a body of disinterested and altruistically inspired citizens. However, recently, one of their number, in criticising the League's disinclination unreservedly to follow that association, remarked that the trouble with the League was that it could not understand that **even such a group of self seeking men** may sometimes want to put something over for the general good.

We will have to admit that in being required to select judges by popular vote, especially in a metropolitan city, the people have been given a highly technical task which is far beyond them; that in the second place, even if the people had sufficient technical knowledge to qualify as electors of judges they would still have to depend almost exclusively upon the daily press for the detailed information indicative of the qualifications of the host of candidates, and for the official records of those candidates who have been or are at present in office. But we know that the metropolitan press is not in that kind of business, and even if the press would furnish such data in the most impartial manner, the very mass of the information so presented would overwhelm the voter, who must spend at least a fraction of each day in making a living.

So why not admit, in a word, that in selecting judges who are to arbitrate in the intimate reactions arising out of the subtle relations of man to man and even to determine issues of life or death between citizens, we should show the same kind of sense that men do when they select a head chemist or any other high grade specialist in an industrial plant? There they put the job up to experts in the art of selecting these specialists.

Would we not, by pursuing such a course, rather than by loading upon the voter tasks which he is utterly unable to perform, be approaching a little nearer to true democracy? We are not suggesting that judges be appointed for life.

Nevertheless and notwithstanding, the Municipal League will do what it can to relieve a difficult situation by publishing in its next Bulletin, for the benefit of its readers, such information as it can secure in regard to candidates. We trust however that the situation may soon be remedied through a wide popular demand for a change in the method of selecting judges.

THE OWENS VALLEY "REVOLT"

(Continued from Page 3)

by valley interests from building a 100-foot dam.

What City Has Done for Valley

Antagonistic sentiment around Bishop would not be so strong if the valley press were not closed to a presentation of the benefits resulting from the city's activities. Some way should be found to impress upon the residents the following facts:

The Southern Pacific's broad-gauge line from Mojave into the valley was built because of the city's contract with the road covering the hauling of materials for the building of the aqueduct. If it had not been for the aqueduct the valley would probably still be closed against the Los Angeles market, so far as direct rail transportation is concerned.

Sought Right to Pay Taxes

The city has been generous in its dealings with the valley as a political unit. Shortly after Los Angeles began operations there it recognized the injustice of the constitutional inhibition against payment of taxes by a municipality. Through the efforts of W. B. Mathews, special counsel for the public service commission, a constitutional amendment was adopted curing this defect. **Los Angeles today pays taxes on 110,000 acres in Inyo County, a little less than half the total of 260,926 acres on the county's tax rolls outside of cities and towns.**

The city's contribution to the support of local government has mounted from **$13,531.60** in 1910 to around **$70,000**, or about a quarter of the total taxes paid, in 1924.

Lands Getting Water at City's Expense

Loose use of the phrase, "drying up the valley," has led to a popular misconception of the real condition in the farming areas. There is no shortage of water for the farms still unpurchased. On the contrary, there is what might be generally regarded as wasteful use of water in many sections of the county. Excessive irrigation has water-logged lands and, in the absence of pumping, rendered them unproductive except as grazing areas. The city is in a position to help the ranchers out of this difficulty through regulated pumping if their co-operation can be obtained.

In the lower end of the valley an increase in population has followed the city's activities. Independence, the county seat and valley headquarters for the water and power departments, is admittedly more prosperous than it was eight or nine years ago.

Lucrative Tourist Trade

Cheap light and power have been supplied to Lone Pine and Independence and the agricultural and mining enterprises around these towns from the city's plans on Cottonwood Creek, the Haiwee Reservoir, and Division Creek.

The building of the aqueduct and the advertising and opening up of the valley that followed have been factors in increasing tourist trade with the restau-

rants, hotels, and other retail establishments in the Inyo County towns. The flow of money into the county from this source is large and most of it is from Los Angeles. It is estimated by one observer, a resident of the valley, that during the summer season last year the number of automobiles daily entering the county from the south was more than **400.** This would have a noticeably stimulating effect on the business of a community whose stable population totaled only **8,000.**

There is no doubt benefits along this line will increase as highways are improved and Los Angeles and Southern California become better acquainted with the marvelous beauties of this country of the snow-capped High Sierras.

What Longyear Wants

W. D. Longyear, a Director of the Los Angeles Security Trust and Savings Bank, is offering to the city **2,142.5** acres of land in the Owens River Valley that would be irrigated from the Bishop Creek. According to the Los Angeles and Owens Valley newspapers, he is asking **$250** per acre, or $535,625.00 for the entire ranch. According to a statement made to us by his son, D. M. Longyear, the Longyear Ranch and the 4c Ranch of some **2,480** acres, taken together, were offered to the city last fall at **$200** per acre. But Mr. Longyear, Jr., stated that the 4c Ranch land was not as good as the Longyear Ranch land so that a figure of about $250 per acre is probably what is expected by Mr. Longyear for his own ranch.

It was assessed in 1923 for **$78,240.00,** which figure included **$20,895.00** as the value of the personal property and improvements on the land. The land itself was assessed at **$57,345.00.**

Quality of Longyear's Land

Assessments are made on the basis of 50 per cent of the real value so that the property altogether should be worth twice $78,240.00 or $156,480.00.

A classification of the property gives the following: Alfalfa 20 acres, clover 6.25, corn 8.95, buildings and orchards 37.80, wild hay, grass and clover 289.80, wild grass and salt grass 801.65, brush and grass 769.20, brush 111.50, tules (swamp land) 73.95, willows 6.4, cleared land 4.65, highway 12.35 acres.

It will be seen that about 75 acres is under cultivation, the rest, or some 2,000 acres coming under the general characterization of grazing land.

A leading business man of Bishop gave $10 to $15 as the value of grazing land, when questioned as to the value of such land in Long Valley, some thirty miles north of the Longyear Ranch. At $15.00 per acre for such land in the Longyear Ranch, about $30,000 would appear to be a good price.

Why Pay Three Times Its Value

However, one of the Los Angeles real estate dealers who knows alfalfa land all over this section of the country, made this observation to us: "Good alfalfa land up in Owens River Valley is worth from $200 to $250 per acre. But those people up there have a habit of putting in damp pasture land as alfalfa land. Such land is worth from $50 to $75 an acre."

If we take the higher figure, or $75.00 per acre for the 2,000 acres of such land in the Longyear Ranch, we shall arrive at a figure of $150,000.00.. Adding $18,750.00, which is putting the other 75 acres in at $250 per acre (the price given above for the best alfalfa land) gives us a grand total of $168,750.00.

Why should Los Angeles, even if it wanted to buy, pay the $535,625 reported to be asked by Mr. Longyear, or $366,875 more than it would appear to be worth?

Why Sutherlands Must Go

M. C. Bettinger, League member and former member of the board of education, discussed at the last Tuesday noon League meeting the contemplated dismissal of **Dr. A. H. Sutherland,** director of psychological research in the public schools.

"There is in every large school system," he said, "an eternal struggle between the forces striving for uniformity and the forces striving for diversity in education.

"Those striving for uniformty emphasize management and discipline. They want a well-oiled machine. They have the administrative type of mind.

"Those striving for diversity want to get right down to the individual pupil and deal with him, realizing that no two children are alike and they have to be dealt with as individuals if we are to get results.

"I have watched the struggle between these two forces for 33 years and during most of the time the forces striving for uniformity have been in control.

To Produce Freemen or Slaves?

"Dr. Sutherland, head of the psychological and research department of our public schools, belongs to the group that wants diversification. He sees only the individual child, what should be done for the individual child, and nothing else. He doesn't care anything about administration.

"And let me say here that in my observation anybody who takes that view, anybody who sees only the individual pupil, is bound to run into the breakers. He runs against the 'uniformity' people and they are pretty strongly organized. The 'diversified' people have been short-lived, as a rule, and the others have gone on."

A second reason for Dr. Sutherland's proposed dismissal, according to the speaker, was that he openly supported the board of education ticket that was defeated at the last election.

On Selling School Desks

The old days of "cut-throat competition" which prevented school desk firms from selling their goods to the board of education "at a fair profit" will soon be no more—that is, if the board will listen to "reason".

These firms, realizing at last the wickedness of knifing one another in the dark, have gotten together amicably and, like gentlemen, reached an agreement as to price before submitting their bids.

In the old days of "cut-throat competition", a representative of one of the concerns explains, every company lost money in its dealings with the board. Some fellow was always turning up who would cut under the cost of production.

Five Firms Get Together

Now, he says, it's the idea of the companies, instead of "cutting one another's throats", to get together and "put in a price that will be reasonable".

On August 27, 1923—in the old days of "cut-throat competition"—the Western States Company put in one of those "unreasonable" bids, calling only for $7.55 per desk on an order of adjustable A desks, $5.16 on adjustable A rears, $7.10 on adjustable B desks, and $4.90 on adjustable B rears.

But on July 7, 1924—in the new age of gentlemanly agreement and "reason"—five firms, C. F. Weber & Company, Stewart Supply Company, Rucker-Fuller Company, Barker Brothers (handling Western States Company's desks), and the Jones Book Store, put in identical bids as follows:

One thousand adjustable A desks, $9.45 per desk; 125 adjustable A rears, $7.20; 1,000 adjustable B desks, $9.15; 150 adjustable B rears, $6.90.

The reward of "reason" is thus seen to be about $2 per desk.

Or take another example:

On December 26, 1923—in the old days of "cut-throat competition"—the Rucker-Fuller Company put in a bid of $5.70 per desk on an order of No. 2 seats and $3.82 per desk on an order of No. 2 rears.

But on June 23, 1924—in the new age of gentlemanly agreement and "reason"—five firms, C. F. Weber & Company, Rucker-Fuller Company, Stewart Supply Company, Barker Brothers, and the Jones Book Store, offered to sell 1,000 No. 2 desks at $6.95

per desk and 100 No. 2 rears at $4.95 per desk set up and delivered at the warehouse. The Heywood-Wakefield Company bid three cents per desk less on both items.

"Reason" this time claims a dollar-plus reward.

But will it get it?

R. L. Burns, member of the school board's purchasing and distribution committee, says No. According to Burns, the board will reject the bids of both July 7, 1924, and of June 23, 1924.

Ever a Fly in the Ointment!

Representatives of the school desk firms admit the schools are entitled to a low price in view of the volume of business. The number of desks to be purchased during the building program now on will be between 300,000 and 400,000, Business Manager W. E. Record estimates.

"We don't want to hold the schools up," asserts one school desk man. "All we want is a reasonable profit. And we have got together just once so far to decide what a reasonable profit would be. Later we may not get together at all—we may bid separately."

According to Board Member Burns, the state school law does not provide that the board shall require "non-collusion" affidavits from the bidders. So there is nothing **legally** wrong about the gentlemanly agreement.

Business Manager Record, however, thinks it's dangerous and threatens to put the school department at making tables to take the place of the desks if the combination does not dissolve.

Public Service East and West

We were delighted to hear our former secretary, Seward C. Simons, lay down the law to us as of old at a recent noon meeting.

After a sojourn of some seven years in the East, where he had acquired a family of his own, he was at last again returning to God's country and the small daughter, Grace, was saying her prayers for the last time in Chicago. One report of her words is as follows: "Goodbye God, we are going to California." Daddy, however, insists that this, rather, was the message: "Good, by God, we are going to California."

But, if it was a fact that Grace and her fond parents had to leave God behind in Chicago when they started for this fair state, it would appear from Mr. Simons' address that His presence is far more necessary there than here, if only to straighten out the bad political mess of official corruption.

Chicago, a Mess

Mr. Simons wanted to be fair to Chicago and to the State of Illinois but he could find nothing here in our political life that could at all match the flagrant, brazen way that the government in Chicago and Illinois is run at the behest of and in behalf of the politicians and party bosses.

The influence of the national political parties in the municipal affairs of Chicago, dominating the election of city officials, and even of judges, was evident, said Simons, everywhere. He went into the political machinations of the Thompson-Lundin (Republican State boss) combination up to the defeat of Thompson as mayor by Judge Dever (reform mayor).

The open, flagrant way in which vice was protected by the police department, was incomprehensible to Simons. The anti-Thompson forces flouted the administration by publishing in the Chicago papers long lists of favorites of the administration whose joints were running wide open in violation of the law, with complete impunity.

Civil Service Fails

Civil Service, said Simons, was in equally bad shape—the fault being not with the civil service law itself, which is good but with its administration. There would be failure to hold examinations, resulting in no eligible lists being available, and consequent appointments of friends of the administration to jobs of all kinds. It was notorious that the civil service commission itself belonged to the mayor and the charge was heralded in the papers so that it was generally expected that none but partisans, personal appointments to the civil service would be made.

The first blow to the Thompson political regime was the success of the coalition ticket for judges—a ticket made up of men who had refused to sign the definite pledge of support of the Thompson administration required of the candidates that were supported by the administration.

City Club Backs Dever

The move to oust Thompson and elect Dever had been backed by the Chicago city club. Under the new administration there was, said Simons, much improvement. Men of relatively high character had been appointed to leading positions by Dever. The previous farcical civil service procedure for the selection of construction engineers for school buildings had been supplanted by the appointment of five high grade engineers to conduct a real civil service examination, with the proponents of true civil service actually invited in to watch various steps in the progress of the examination. The result was a real test of fitness without the collusion which had characterized previous examinations.

Passing from the local Chicago situation to the state as a whole, Simons said that open, brazen, violation of civil service had been and was still in vogue. He declared that the present governor was, several months ago, indicted as an embezzler, he being charged with crediting the state with but 3 per cent on state moneys up to $40,000,000 while 8 per cent was earned, the difference of $2,000,000 going into his own pocket.

Governor Acquitted

Though indicted, the governor was acquitted, and the several jurymen who voted to acquit were rewarded by appointment to high state positions.

There were instances cited of pardons by the governor to those convicted of felonies, as, for example, the attorney for the school board, who was convicted of improper use of school funds and the head of the Janitors' Association, who was thus rewarded for having worked for the state administration ticket.

"No governor with such a record could possibly be returned to office in California," said Simons. "We seem to gauge such matters by a somewhat higher standard.

Illinois Loves Relatives

"Nepotism, or the appointment of relatives to the nth degree to office (so long as any are left), is rampant in Illinois State affairs and in the last state election the total vote cast for one candidate in precinct after precinct was greater than the total registration for that precinct."

The Civil Service Reform League of Chicago is very active, it having had an increase of 130 per cent in membership, for which Mr. Simons was to a great extent responsible. The Bar Association is more active there than here. The Municipal Voters' League is still active, the gains outnumbering the losses with the Ilinois League of Women Voters and the Women's City Club working actively for better conditions.

"Enlightened citizen interest is the way out of the mire" was Simons' parting shot, "and for this we must look largely to the younger generation."

Case of Fred Lorentz

A committee of three was appointed by resolution of the Executive Committee of the League on Friday, July 11, to take cognizance of the public conduct of **Fred Lorentz,** Chief Engineer of the Public Utilities Commission.

He has been charged before the Grand Jury with accepting, while in the public employ, moneys up to $2,000 from the Acme Signal Company, following

(Continued on Page 7)

League's Position on Sewage Disposal

The Board of Public Works and the City Attorney requested us to state what we regarded as the people's intent in voting the $12,000,000 sewer bonds August 29, 1922. It had been our thought that tied up with the outfall sewer project would be a definite program for experimentation and treatment of sewage, with a view to salvaging its by-products.

We wrote the board urging that a laboratory be established where experimentation with sewage could be conducted to carry farther the best systems of treatment that have been found elsewhere to promise results. We urged that from the moneys unexpended, of the $12,000,000 sewer bond issue, $500,000 be set aside to be used only for such an experiment station.

By order of the Board of Public Works, a report was requested on our recommendation from Engineer Van Norman, builder of the new outfall sewer.

The City Attorney replied to our communication that he did not hesitate to say that if the Board of Public Works voted to use the amount so recommended by us, such a course would be justified under the bond procedure and wording of the question on the ballot.

Professor Whipple Backs League

The establishment of a research laboratory in connection with the operation of the city's outfall sewer was advocated by **Professor George C. Whipple** of Harvard University at the noon luncheon of the Municipal League at the City Club Tuesday, June 24.

Professor Whipple was one of the three engineers of national prominence who investigated local needs regarding sewage disposal prior to the adoption of the $12,000,000 sewer bond issue and who approved the north outfall sewer project now nearing completion.

Why a Research Laboratory

The research laboratory, **Professor Whipple** said, will be needed for a study of ocean currents, the effect of ocean dilution of the sewage upon bacteria, and the effect upon fish life, and the sea-weeds, kelp and other forms of life.

"When we recommended the outfall sewer three years ago," he said, "we realized we knew little about the way the ocean bathes this coast. We trusted that the ocean would be kind and carry the sewage out to sea instead of toward the shore. I am not at all sure that you have carried the sewage out as far as you will have to when the volume becomes larger.

"I believe it would pay the city to establish a laboratory or field-work headquarters to study the way the ocean moves up and down the coast. We don't know the extent of those currents. We know there is a great hole in the ocean floor opposite Redondo but we don't know the effect of this hole upon the currents. There must be some effect.

Complete Biological Cycle

"Biologic studies ought to be made. Sewage is a very good food for certain forms of life. In the Genessee river at the mouth of the Rochester sewer you find bacteria in great numbers; a mile down in smaller numbers and the protozoa in great numbers. Still farther down the crustacea are numerous while the protozoa are not.

"Down farther the fish eat up the crustacea and beyond that point fishermen catch the fish and take them back to Rochester for human consumption. Thus the cycle is completed.

"Now the biological cycle may be beneficial, as in the case of Rochester, and it may be harmful. We ought to be in a position to know in connection with the local situation.

"These studies would be of great interest and they may be of great practical value, because some day somebody is going to claim that the method of disposal is not satisfactory. The city needs to know whether or not it is satisfactory. It is not safe to go ahead in ignorance."

Looking Ahead to Land Treatment

Professor Whipple expressed his opinion that a sort of advisory committee should be formed from representative bodies interested in the operation of the outfall sewer. He said he was not so enthusiastic as he was three or four years ago regarding the establishment of an activated sludge plant. He believed the city could learn what it wanted to know regarding activated sludge at little expense by following the achievements of the activated sludge plants at Pasadena and other cities.

"Land treatment may come in time," he went on. "The time will come when you will have to conserve all the water there is and you will have to use it over and over again. At the present time, however, it seems to me there is no such need."

Replying to questions from the audience, Professor Whipple said that treatment of sewage on land, as in the case of activated sludge plants, created more of a nuisance from dilution in the ocean, that he knew of no area of land between Los Angeles and the ocean large enough to permit of land treatment without nuisance.

Some Day, Must Utilize Sewage

"There will be some smell, some nuisance, from land treatment," he asserted. "You want to get treatment with the smallest possible amount of nuisance to the smallest number of people."

The speaker admitted a great waste of nitrogen in ocean disposal but added that the cost of recovering nitrogen in land treatment plants was too great to make the method practicable.

De-greasing of the sewage, he said, would be necessary before the sludge would be marketable and this was costly.

"Looking ahead a great many years," he concluded, "I think we will utilize sewage wastes, but not now."

Knowlton for Laboratory

W. T. Knowlton, sewage engineer for Los Angeles, spoke briefly on the progress made in the construction of the new outfall sewer, which he said was about two-thirds completed. "The screening plant at Hyperion is already in operation," he said, "and prevents solids more than a sixteenth of an inch in diameter from entering the ocean."

He said the engineer's office is already starting a laboratory for the study of conditions around the mouth of the outfall sewer and for the preservation of certain records as to the condition of the bay waters.

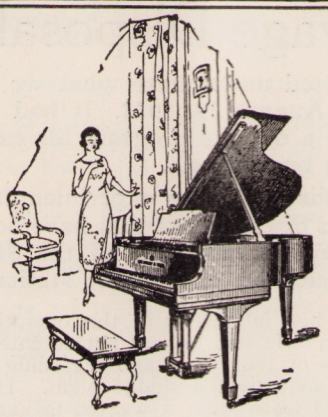
Replying to a question from the audience, Mr. Knowlton said that the new outfall sewer will have an inner lining of vitrified material its entire length to the ocean to guard against distintegrating action of gases. There will be no such lining, he explained, in that portion of the conduit submerged in the bay waters.

CASE OF FRED LORENTZ

(Continued from Page 6)

favorable report from him on that Company's street intersection signal system. After his report that company received the contract from the City Council to put in its system.

The League's committee which is looking into the matter consists of **Messrs. H. L. Moller, N. D. Darlington, and David Woodhead. This matter was first called to the attention of the district attorney by the Municipal League.**



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Water and Power Shortage

The Municipal League met jointly with the Public Power League and the City Club Tuesday noon, July 15th, to hear Hon. Clyde Seavey, member of the State Railroad Commission on the question of "Water and Power Shortage."

He stated:

That from five of our principal streams, the run on June 30 this year was but 40% of the flow at the corresponding period in 1920;

That power shortage comes primarily from water shortage;

That the Southern California Edison Company's output had averaged 1,526,000,000 kilowatt hours per year;

That its output this year is estimated at 700,000,000;

That the Railroad Commission had appointed a **Power Supervisor** who was bringing about a fine spirit of co-operation among both power producers and power users to meet the emergency;

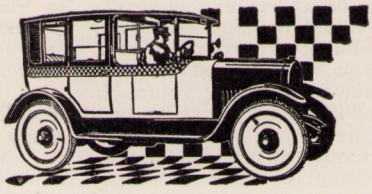
That essential industries, especially the farmers, must be given preferential consideration and that through **daylight saving** a tremendous saving in power can be accomplished;

That one town in Ontario, Canada, through daylight saving, was providing for the irrigation of 600 acres;

That in dragging down the agricultural part of the community you drag down the whole, so that self preservation dictates this policy of looking out for the dirt farmer;

That if Los Angeles would adopt daylight saving every community in California would follow suit;

That the State must control the policies having to do with its own waters which are its life blood.



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More reasons to support LAxit

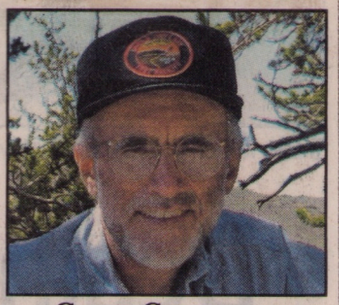
By Daniel Pritchett

Last July I wrote an op-ed arguing for LAxit: inspired by Brexit (the British referendum on membership in the European Union), LAxit would be a referendum on Los Angeles exiting the valley while phasing out its dependence on Eastern Sierra water, addressing Native American land and water claims and protecting existing open space. I pointed out that the chief obstacle to LAxit was residents holding the view that "If it weren't for Los Angeles Department of Water and Power this place would look like (name your favorite ugly sprawled suburban area)." These residents seem to be frightened at the prospect of a DWP departure. They overlook DWP's endless environmental abuse of the valley because they credit DWP with the high quality of life here.

Adherents of this "DWP is the savior of the valley" myth may wish to re-consider their positions. Recent articles in the media have described certain changes to DWP ranch and business leases. According to *The Inyo Register*, changes could lead to reduced county services because they will lead to lower property values and lower tax revenues. According to Bishop City Administrator Jim Tatum, impacts could be "devastating."

Meanwhile, remarkably punitive terms DWP is imposing in the new lease for the Sunland landfill will lead to increased rates for all of us and increased work and liability for the county ... whose resources will be diminished due to declining property tax revenue as a result of DWP ranch and business lease modifications.

TOP OF THE MORNING



GUEST COLUMNIST

And let's not forget the homeowners in southwest Bishop subjected to hydrologic havoc when DWP changed its management of Bishop Creek in 2013. DWP has never accepted responsibility for the consequences of its actions and Owens Valley residents lost tens (if not hundreds) of thousands of dollars.

The lease issues and Bishop Creek fiasco illustrate that our economic prosperity and quality of life cannot be taken for granted. They are threatened by DWP's colonial rule just as our environment is. Those fearing a DWP departure should be more fearful of DWP not departing.

County supervisors do the best they can in defending against DWP's unending attacks, but the time is long overdue for the county to also play offense. Visitors often ask why our county government is so acquiescent to DWP. I tell them it is a reflection of public opinion. We act as a defeated people.

But we don't have to. There are many alternatives to DWP's colonial rule, which would allow us to not just maintain but enhance our quality of life as well as our environment. LAxit would be an important step in rousing us from our collective torpor and generate political pressure on LA to end its colonial rule and act on its stated goal of reducing its dependence on imported water.

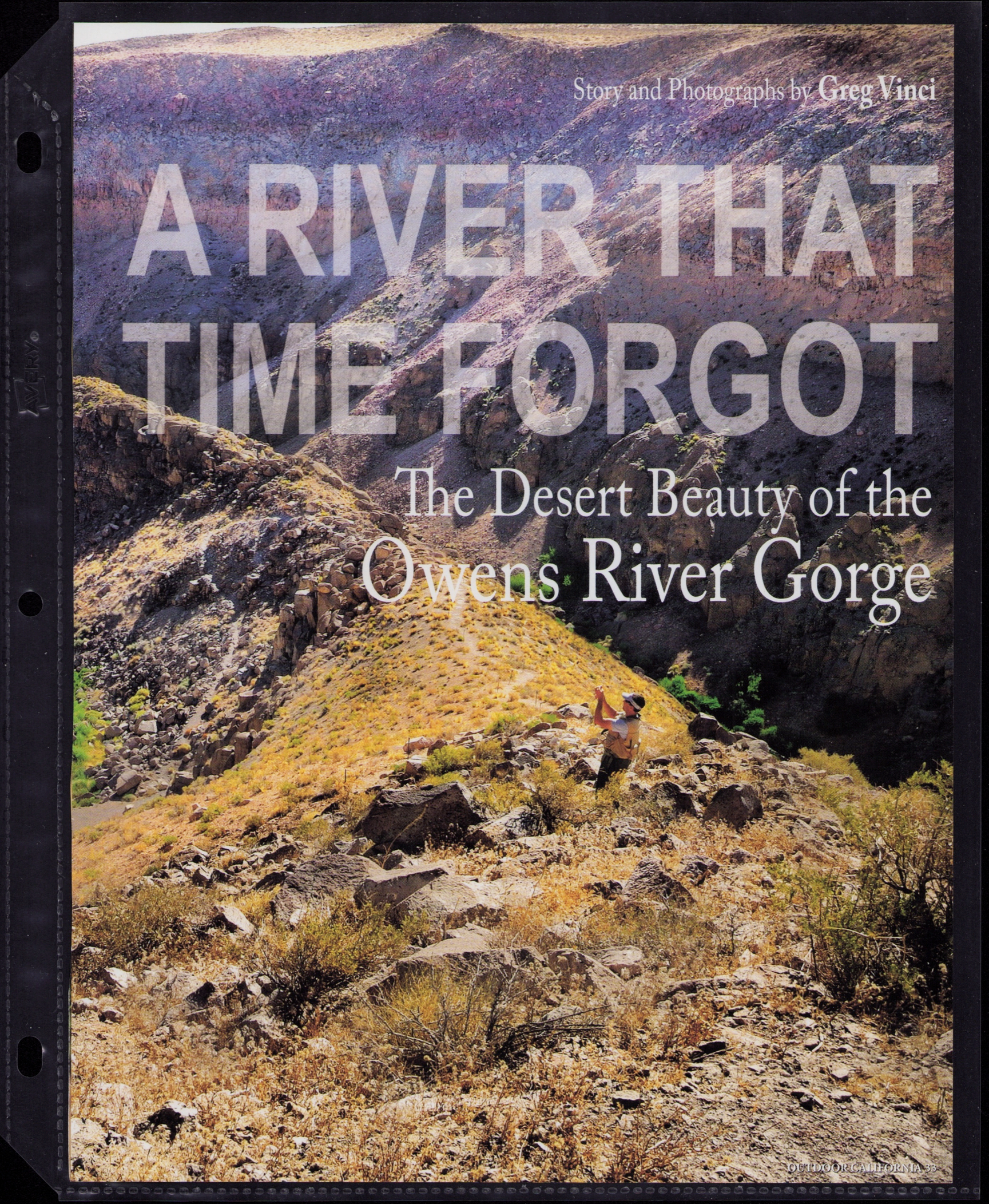
Another step would be for the county to start sending people to speak in public at every meeting of the LA Board of Water and Power Commissioners. In 2011 DWP was reported to be the 13th most hated company in America. With all the anger directed at DWP from its customers in LA, it is easy for Water and Power commissioners to ignore/forget Owens Valley issues. "The squeaky wheel gets the grease" – the county does not squeak nearly enough in public in Los Angeles, where it matters. A small part of the $1 million LA pays the county to finance the Inyo County Water Department would be sufficient to fund this project. An investment in establishing a public presence in Los Angeles could have significant political returns.

LA has alternative water supplies. Its own data show through investment in water recycling, conservation and storm water capture it could phase out its addiction to Eastern Sierra water and end its colonial rule. What is lacking is not water, but political will to make the necessary infrastructure investments. The first step in generating political will in LA is for Owens Valley residents to state clearly what we want. That is the importance of LAxit.

(Daniel Pritchett has an MA in ecology and systematics from San Francisco State University. He has lived in Bishop since 1995 and recently retired from the University of California after 20 years as a system administrator.)

1-17-2017

For those who know of it, the Owens River Gorge is a spectacular desert canyon that possesses a grandeur unlike anywhere else. The gorge is the 17 mile section of the river between Crowley Lake Dam and Pleasant Valley Reservoir near Bishop. But to reach the available fishing opportunities at its base, a 900 foot descent must first be maneuvered through the baked desert walls along a steep and slippery trail.



Story and Photographs by **Greg Vinci**

A RIVER THAT TIME FORGOT

The Desert Beauty of the Owens River Gorge

The isolated wilderness between Bishop and Mammoth Lakes holds the Owens River Gorge, a desolate canyon with a violent and colorful history that today offers a cache of recreational opportunities for those with the skill and the determination to seek the chasm's floor

There are those of us who are literally what you would call "map freaks," who enjoy pouring over a topographical map spread out on the dinner table, magnifying glass in hand, searching the nooks and crannies of the Sierras. No need for an online satellite view as they can follow a graphically rendered trail on a map and use their imagination to portray the beauty of the geology and surrounding vegetation they'll find at that location in the future. When the map shows contour lines packed close together, it means the terrain is very steep. By knowing the contour intervals for a particular map—and using a magnifying glass—the number of lines can be counted and then multiplied by the contour intervals to determine the depth or relative elevation of a particular geographic feature.

On a topographic map of California, the contour lines of the ~~eastern~~ Sierra Nevada range are further apart compared to those on the more mountainous ~~west~~ slope. East of the Sierras is the relatively less mountainous terrain of Nevada's Great Basin and the valleys, like Long Valley near Mammoth Lakes and the Owens Valley that runs from Bishop to Lone Pine. Along Highway 395, the slight gradient stretches for some distance, though mountain ranges can be seen periodically on the eastern horizon.

On a U.S. Geological Survey map for the section known as Sherwin Grade between Bishop and Mammoth Lakes, the closely spaced topographic contour lines look like a giant knife had incised a 1,000-foot deep wound into the relatively flat high desert terrain. There, less than five miles to the east, lies the little-known Owens River Gorge, one of California's most exclusive geographical attractions.

Peeking over the edge of the gorge's rim for the first time produces a "wow" moment, similar to a first view of Yosemite Valley from Glacier point—though on a smaller scale. At 7,000 foot elevation, the crisp air makes it seem possible to reach across and touch the opposite wall of the canyon. Down 900 feet in the stark veiled crevice, a ribbon of vivid green vegetation is seen, and the sparkle of flowing water flanked by pillars of compressed volcanic tufa stand as sentinels, guarding the canyon's ancient beauty.

The Owens River Gorge has a fascinating history. It once served as the main channel of the Owens River prior to the controversial construction of Long Valley Dam, the barrier that impounds Crowley Lake in southern Mono County. In the early 20th century, the Los Angeles Department of Water and Power began diverting water from the Owens Valley and in 1941 built the dam as storage for the Los Angeles Aqueduct and for flood control. LADWP

Opposite page: The Los Angeles Department of Water and Power controls the flow of water through the Owens River Gorge, and the amount allowed today stems from legal battles from more than a half century ago. Those battles became part of what is now known as the California Water Wars. At left, what awaits those willing to trek to the floor of the gorge is the possibility of a 10-inch brown trout.

In order to enjoy the great fishing opportunity, a considerable amount of effort must be undertaken by the angler just to get to the river. There remain only four accessible trails into the gorge, which sinks to between 500 to 900 feet below the rim.

engineers diverted water flow for 10 miles around Owens Gorge to a powerhouse that empties into Pleasant Valley Reservoir near Bishop. The gorge dried up and so did most of its aquatic life. The diversion of the river infuriated residents of the Owens Valley and the matter escalated into violence and added to the already dangerous situation known as the California Water Wars.

In 1991 a penstock at the dam ruptured and released a flow of water into the gorge. Perhaps because of litigation that had gone against LADWP just a short time earlier regarding the re-watering of another eastern Sierra waterway, the power giant was more cooperative about maintaining a flow through the gorge. Negotiations by the California Department of Fish and Wildlife and Mono County were based on a decades-old law that requires dam operators to maintain fish downstream. LADWP agreed to continue a minimum flow of 45 cubic feet per second, which was less than half of what the flow had been before construction of the Long Valley Dam. Still, within a year, the agreement restored aquatic life, specifically benefitting brown trout and the indigenous Owens tui chub (*Siphateles bicolor snyderi)* among other life forms. Remnants of non-native brown trout (*Salmo trutta)* that lived in the canyon prior to the de-watering had managed to survive in areas of the canyon where springs kept some minimal flow. The same waters sustained the federally and state-listed endangered tui chub. In fact, the tui chub population found in the gorge was one of only three in existence. To help hasten the restoration of the browns, CDFW hatchery system waited until the water flows had been increased to the specified 45 cfi and then planted 10,000 fingerlings into the waters.

In 2015, another court order between CDFW, Mono County and LADWP helped improve the quality of the gorge's ecosystem. The agreement, based on environmental studies conducted by CDFW's fishery biologist Steve Parramenter, required LADWP to increase flows to levels approximate what they would've been prior to the construction of the dam. For example, under the agreement, LADWP increases output during spring runoff and decreases the level to the base measurement in the fall. Additionally, they undertake periodic pulsing flows, which are a temporary flow increase that raises the water level to inundate the flood plain adjacent to the river. The increased flows imitate a natural rise that occurs during spring runoff prior to construction of the dam.

CDFW's environmental scientist Nick Buckmaster explained that pulsing flows mitigate silting that is detrimental to fish spawning habitat.

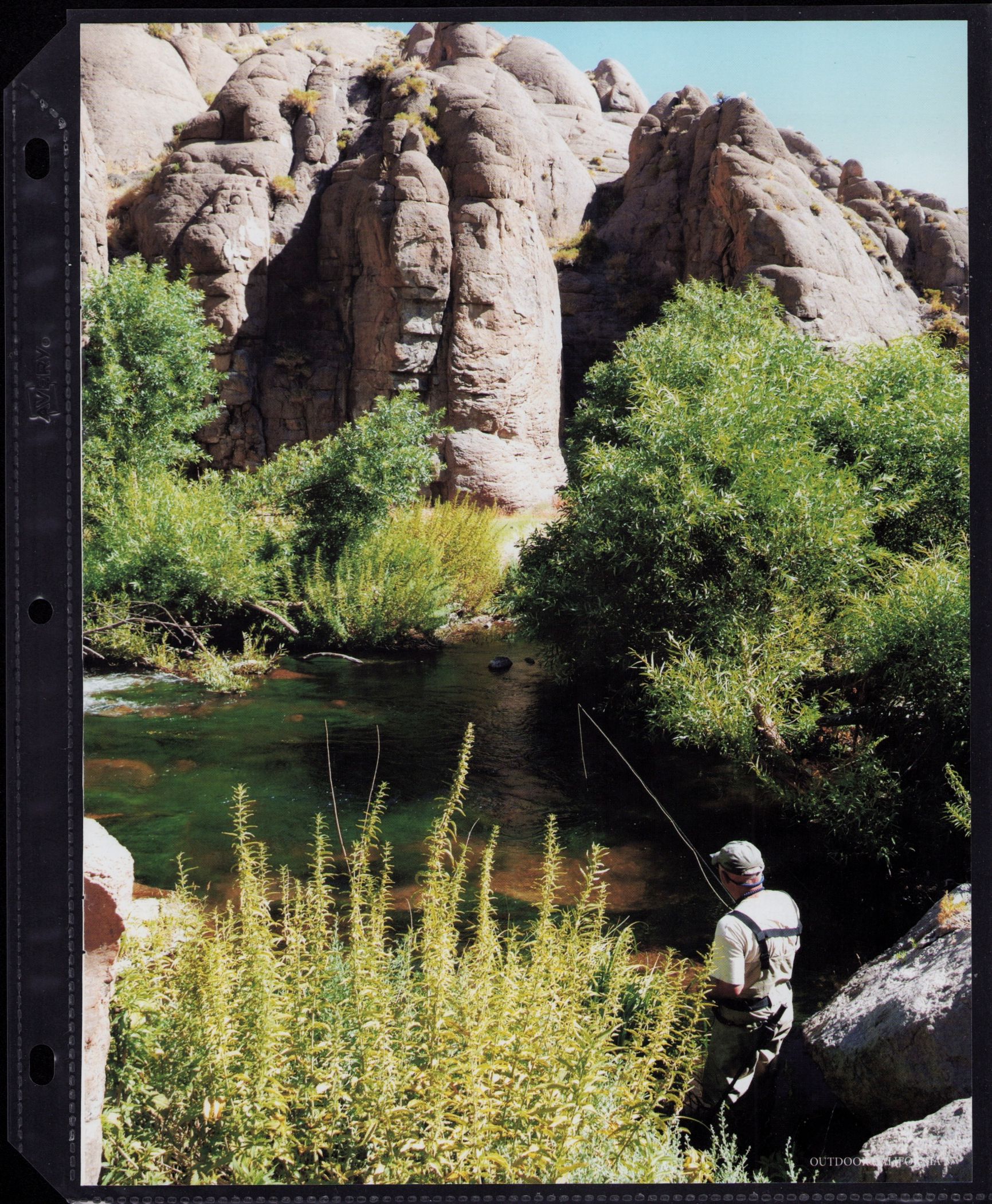
"The higher flows will blow out accumulated silt, thereby exposing spawning gravel and also enhance the vegetation of the riparian strip by flooding water into dry areas along the river," Buckmaster said.

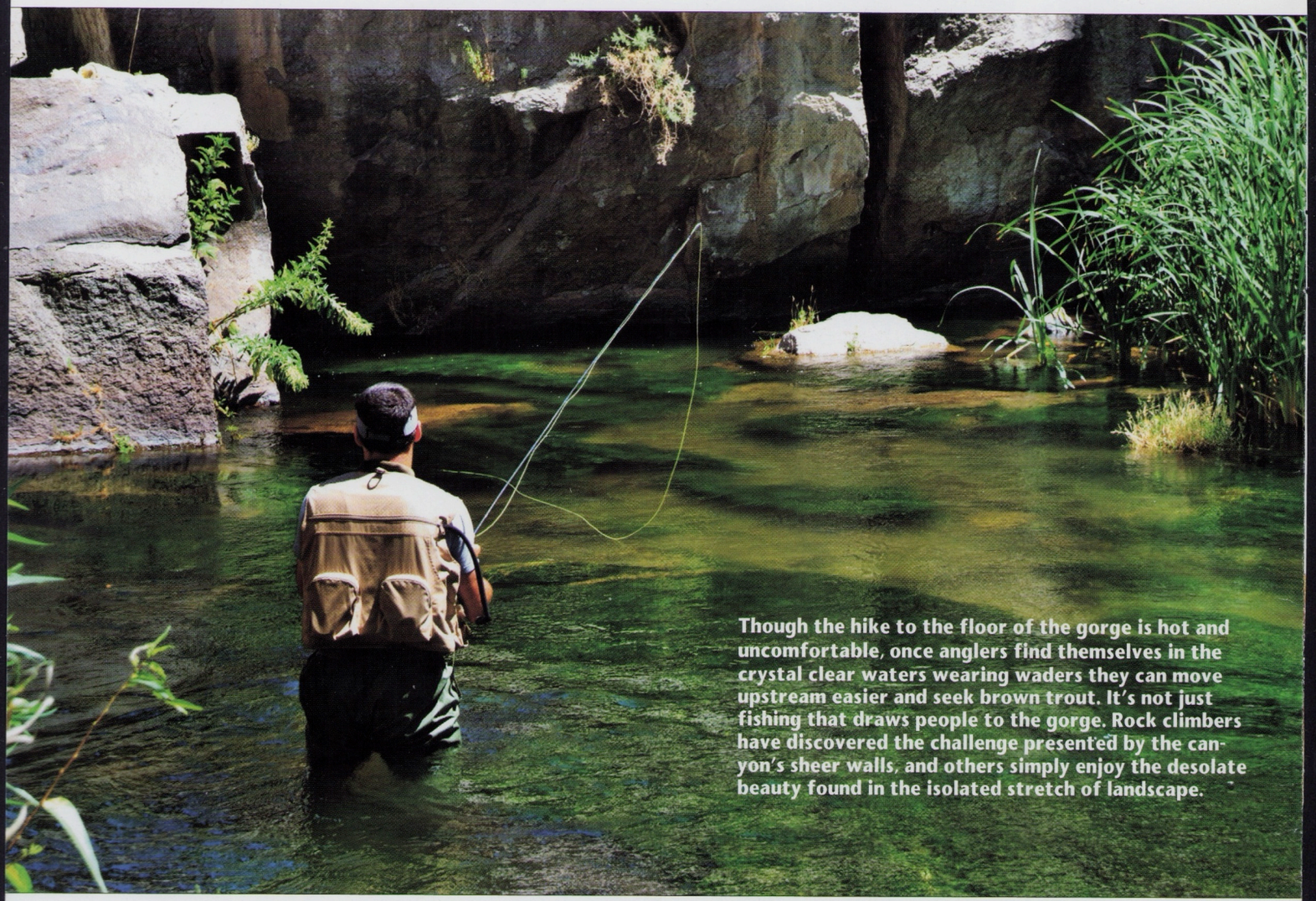
The new flow regime is being phased in over three years. The final part of the agreement will remove artificial fish barriers that have been located at two of the powerhouses.

With all the changes, beginning with the re-watering in 1991, the aquatic life has thrived in the nutrient rich environment, helping the waterway earn a reputation for being one of the best brown trout fisheries in the state.

In order to enjoy the great fishing opportunity, a considerable amount of effort must be undertaken by the angler just to get to the river. There remain only four accessible trails into the gorge, which sinks to between 500 to 900 feet below the rim. Two of the accesses are located at each end of the gorge, one at Long Valley Dam and the other at the Pleasant Valley Powerhouse. From an angler's perspective, those two accesses are less than preferable as the shoreline vegetation is so dense that it is almost impossible to cast without losing tackle in the overhanging branches. One of the two remaining accesses is a gated

Reaching the base of the canyon, anglers fight through branches of stinging nettles that line the deeper pools. The currents caused by the faster water at the inlet are tricky, pulling the floating line of a fly fishing rig in different directions and making it difficult to place the fly exactly where it needs to land. The aim is to get the fly to drift at the same speed as the current, what they call a dead drift.





Though the hike to the floor of the gorge is hot and uncomfortable, once anglers find themselves in the crystal clear waters wearing waders they can move upstream easier and seek brown trout. It's not just fishing that draws people to the gorge. Rock climbers have discovered the challenge presented by the canyon's sheer walls, and others simply enjoy the desolate beauty found in the isolated stretch of landscape.

road—still open to the public—that descends to one of the powerhouses located along the middle section of the gorge. The last follows an array of switchbacks that descends along one of the steepest portion of the canyon, a section known as the Horseshoe.

The Horseshoe trail begins on the rim of the canyon at an unimproved parking area and drops off steeply into the canyon. The trail, which was once considered state of the art hiking path, was cut into the canyon by DWP back in the late 1950s so survey crews could record the region in anticipation of building an additional dam. The dam project was eventually shelved.

More than a half century after it was first constructed, the horseshoe trail has become so worn that it's difficult to manage across some sections. It can be also dangerous due to the steepness, slippery footing and the occasional rattlesnake. Waiting at the bottom, a carpet of stinging nettles that grow 5 feet tall must be contended with. With its sense of isolation it can feel as if time has forgotten this stretch of land.

There are no trails along the river so fishing is a challenge; the only way to gain access to water is to bushwhack through the willows and nettles to get to the pools. The reward, however, is worth the effort as the floor of the gorge opens to crystal clear water. The flawless surface serves as a window with its vibrant view of the plentiful underwater vegetation and the rhythmic movement of fish moving through the shadows. Lush habitat exists for the prolific invertebrate lifeforms that brown trout love to eat. As perfect as the scene appears, an angler understands that the clear water means a stealthy and silent approach is essential in order to catch the fish. Fortunately, the fish are not picky about what they eat and will

strike at pretty much any fly pattern that is presented so that it drifts in a natural way.

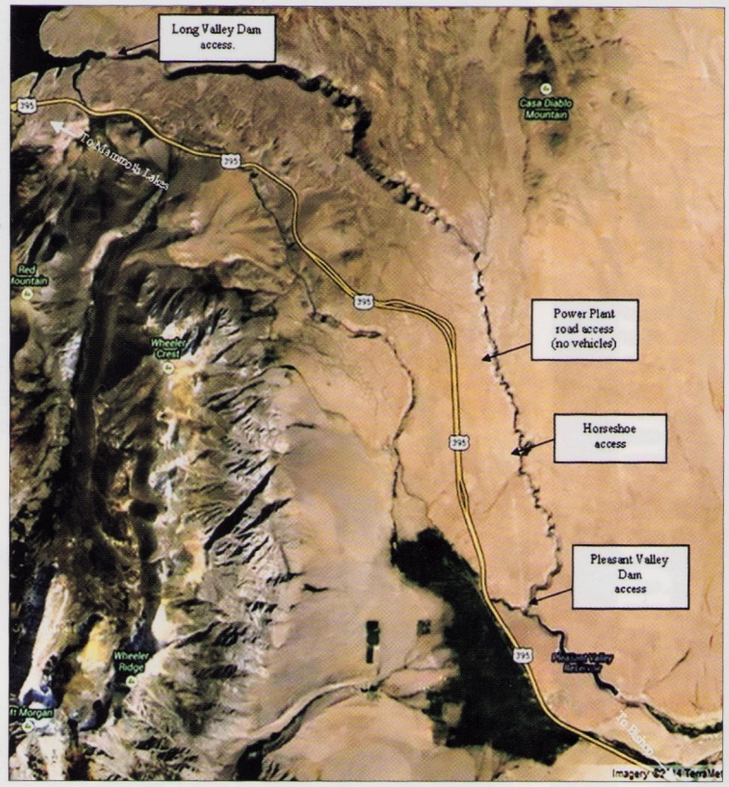
Beyond fishing, the Owens River Gorge has offered recreational opportunities through a plethora of outdoor activities. The remote location has been a draw for sightseers with a desire to experience the desolate beauty that can be found in the desert landscape of southeast California. The canyon's sheer walls have offered a unique challenge in the growing sport of rock climbing.

Hiking the gorge continues in popularity and the best times are fall, winter or spring. During the cooler months rattlesnakes are in hibernation and the nettles have lost their leaves. During the summer, it's wise to plan hikes for the morning hours before the blistering heat of the sun becomes unbearable. At the gorge's rim, even at the 7,000-foot elevation, temperatures become excruciating during the summer. Due to the reflective nature of the gorge's cliff-like walls, that heat can be concentrated upon the floor of the gorge. Hikers often face dehydration, particularly on the hike out. The best plan is to carry plenty of water or bring a bottle with a filter cap that can be filled before the ascent back to the rim.

In any outdoor activity within the gorge, proper clothing can save a lot of misery for the uninitiated. Long trousers and a long-sleeve shirt are a must to protect against the nettles. Clothing of synthetic fabrics that breathe is a good call as the material will not only offer protection but lift moisture away from the skin and keep the wearer cool. Hiking boots or sneakers with soles designed to grip the slippery and steep terrain are important.

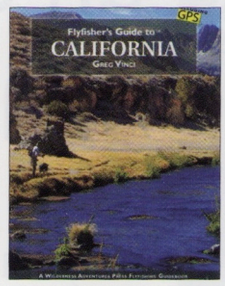
How to Get There

With few exceptions, LADWP has allowed the trails—both marked and unmarked—of the Owens River Gorge to remain open to the public. Reaching the gorge is easy as it's only a few miles off of Highway 395. From Bishop, travel north for 13 miles to Gorge Road and then turn right (east) for about three-quarters of a mile to a T-intersection. Either direction will eventually lead to the gorge. A right turn leads to the Pleasant Valley power plant, which provides access the gorge. Turn left at the T-intersection (north) and the road parallels the gorge for nearly 2.4 miles before the road runs alongside a large pipeline. When the pipeline ends, turn right on the dirt road for about three-quarters of a mile to the rim and a parking area. The middle power plant section can be reached by traveling another three-quarters of a mile north on Gorge Road to where a road intersects from the right (east). The road will gradually descend into the gorge to end at a powerhouse. About halfway down the road is a gate and a parking area. Continue on foot to the river where there are several places where the water is reachable. To enter the canyon from the upper end at Long Valley Dam, take Highway 395 to the turnoff to Tom's Place and turn east on Owens Gorge Road. The dam is 3.6 miles down the road.



The Owens River Gorge is an off-the-beaten-path geographical wonder found along the Highway 395 corridor. The gorge offers only four trails down its steep slopes. Anyone traveling to the site should be aware of the possibility of altitude illness. At 6,500 feet in elevaton, day-hikers will find the 900-foot decent to the canyon floor physically taxing. And there's no other way of getting out of the gorge other than a return hike up the same trail as before.

Greg Vinci is a freelance writer who lives in northern California. He is the author of ***Flyfisher's Guide to California*** *and his stories have appeared before in* Outdoor California. *Copies of this guide are available for $29.95. Email requests to the author at* vinci.greg@gmail.com



MIKE GERVAIS *Publisher* | TERRANCE VESTAL *Managing Editor*

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An open letter to LADWP

By the Walking Water Core Team

An open letter from Walking Water to the Los Angeles Department of Water and Power:

First we want to thank you for meeting with us this year and speaking with our local and global walkers, as well for the opened gate at the Cascades, which contributed to a significant opening prayer.

We have just completed the 550-mile walk and the journey has proved to be very much worth it on a number of levels – catalyzing the sharing of stories from many, including tribal members, environmental activists, farmers, ranchers, conservationists and business people. And, we have worked hard to include the LADWP and its employees in that story sharing process all as well.

Some see the water as resource, some a commodity, some as a right – yet all would agree that it is life, our common ground without which we die. Our understanding has always been that together with "rights" are "responsibilities" and that we all have a contribution to make. We know the experience will influence futures in our watershed, in other communities, as well as in other countries.

We now take the time to write some of our thoughts and look forward to your response.

We suggest the following:

First and foremost, we ask that the tribes be given a seat amongst the decision makers. That with the intention of restoring relations with water and peoples, those first peoples of the land, who carry a different worldview and knowledge, be given a voice.

Water sharing throughout LA and Payahuunadu (Owens Valley) can be a win/win. We together can play a part in changing the story of colonization to ensure that nations are respected and have adequate representation. The lands, waters and original peoples have been devastated throughout time and there is a growing movement to heal and change this story. We ask that LADWP and LA model right actions here with the tribes and look into more ways not only to serve the people of LA but truly to change a history of injustice to native peoples and the places that they have inhabited for thousands of years. We are all a part of past and present injustices and now choices can be made to be a part of the healing.

We ask you to acknowledge the indigenous peoples in your information – specifically including the tribes in the history at DWP headquarters and in your exhibitions. We will continue to join with others in this request to make such history part of the education in schools as well as being correctly noted throughout parks and public information places.

Further:

1. Our next expressed wish is that more water be held and widely distributed in the Owens Valley. We ask that water distribution measures and pumping programs be adapted to support the regeneration of lands and aquifers in the Valley. We understand the cost and purpose of the infrastructure in Owens Lake. Still, we continue to join others in the wish that the refilling of parts, if not all of the lake, be part of any future LA water story.

2. That agencies come to work together and that TreePeople's recommendations for sustainability programs be expedited to help LA be fully water sufficient through LA Basin water supplies.

3. As a majority landlord of the Owens Valley we ask that LADWP continue to support projects, programs and businesses that inspire and empower the local community. One such example is the Metabolic Studio. The studio has a large project underway in LA and is responsible for sections of the river there. We strongly support a parallel project developed in partnership with tribes and people in the Owens Valley.

4. We have worked with innovative leaders in water retention landscapes and we ask that you and your many engineers expand your knowledge to consider different approaches and meet with some of these pioneers. This would contribute to a step in a good direction and show willingness to change some of the historic methods of water management.

5. When considering expanding solar parks, we ask that you inform yourselves more fully of the effects of "red heat," if you have not. We ask that rather than expand a centralized, profit-based energy program, that more focus is given to the decentralized community approach – i.e local rooftops be retrofitted and education become a greater priority, leading to all-inclusive cross-culture and class participation in local energy responsibility and development.

We understand that changing ways of thinking, as well as structures and plans takes time, money and courage. We ask for you to share how and where you are willing to be part of a turnaround story?

We know the DWP has been under pressure to meet the city's needs and we heard your interest to meet the Valley's as well over many years now. We even heard from some of you how much you have done in mitigation efforts. Fortunately, for accuracy's sake, one of our core team leaders pointed out how the majority of such efforts were under court pressure.

Please do not take us as being naïve, nor ones who think we have all the answers. We have offered over the course of three years now to arrange meetings with some global water activists, tribal people and community leaders who deeply care. We suggest the polarization will only deepen if some more positive, honest and non-court initiated efforts are not made. Collateral damage, taking care of the many at the expense of a few, is not the only story possible.

Amongst our Walking Water carriers we have people who have spent time working to heal differences and reconnect with the oldest of Earth cherishing wisdom and traditions around the world. We have contacts with some of the most innovative leaders in land/water care. We suggest such people and communities who deeply care are actually a key resource needed. We are grateful to have met those of you we have and look forward to your response.

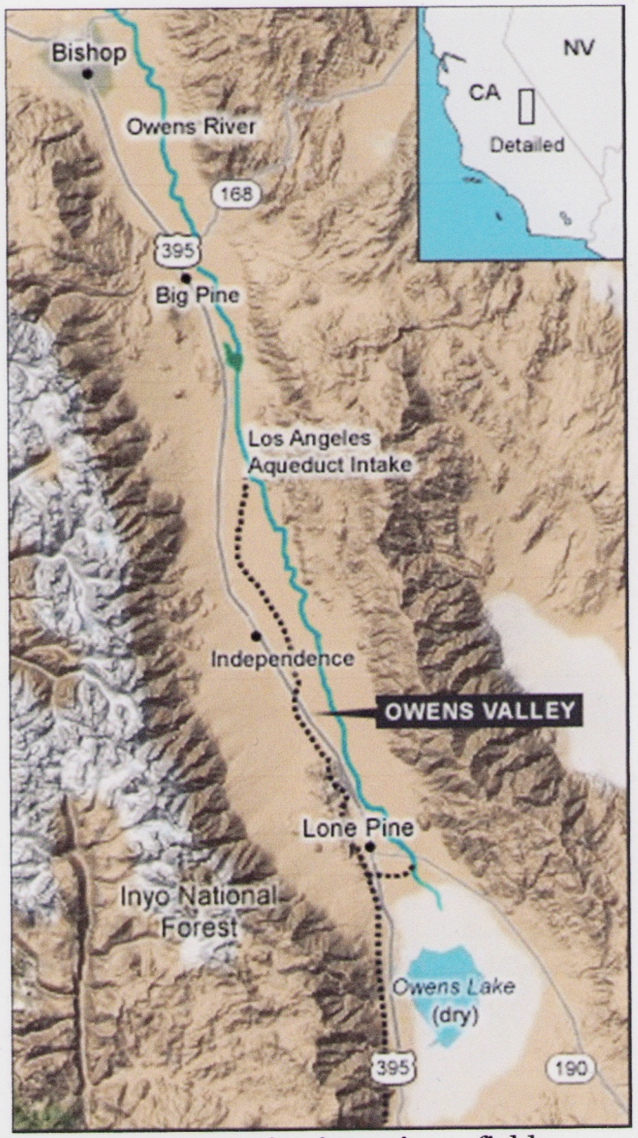
(Editors note: This is an excerpt from the letter to the LADWP and has been shortened due to space.)

(The Walking Water Core Team is made up of Gigi Coyle, Kate Bunney and Alan Bacock.)

THERE IT IS – TAKE IT!

OWENS VALLEY AND THE LOS ANGELES AQUEDUCT, 1913-2013

There It Is—Take It! is a self-guided car audio tour through Owens Valley, California along U.S. Route 395 examining the controversial social, political, and environmental history of the Los Angeles Aqueduct system. The tour illuminates various impacts this divisive water conveyance infrastructure has created within the Owens Valley over the last one hundred years of the aqueduct's existence. Stories of the aqueduct are told from multiple perspectives and viewpoints through the voices of historians, biologists, activists, native speakers, environmentalists, litigators, LADWP employees, and residents from both Los Angeles and the Owens Valley.



Designed as a free, 90-minute long downloadable audio program, *There It Is—Take It!* seeks to shed light on the mutual past, present, and possible future of Los Angeles and Owens Valley—centered around its complicated and intertwined water history. The project illuminates the historic physical source of drinking water for the Los Angeles municipality while simultaneously revealing the complex relationship these two seemingly polar regions of California share through an innovative aural program incorporating interviews, field recordings, music, and archival audio that educates the listener while experiencing scenic Owens Valley landscape firsthand along U.S. Route 395.

Track 1: Chris Plakos
LADWP Public Relations Officer Chris Plakos describes the infrastructure of the Los Angeles Aqueduct system.

View of the original Los Angeles Aqueduct (distant upper right) and the second aqueduct (left) at the Cascades near Sylmar, CA. Photo: Library of Congress.

Track 1: Chris Plakos, LADWP

The Los Angeles Aqueduct is a water conveyance system maintained and operated by the Los Angeles Department of Water and Power—the largest publicly owned utility in the nation. The first Los Angeles Aqueduct, constructed in 1913, stretches 233 miles from the Owens Valley to its terminus in the San Fernando Valley north of Los Angeles. Efficiently designed as a gravity-flow conduit that generates electrical power, the original aqueduct has a flow capacity of 485 cubic feet per second (cfs) and cost the city $23 million to construct. A second 137 mile-long aqueduct with a capacity of 290 cfs was completed in 1970 at a cost of $89 million. The two aqueducts are capable of delivering a combined average of 430 million gallons of water to Los Angeles a day, supplying a 465 square-mile service area with more than 3.9 million residents.[1]

The original aqueduct constructed in 1913 begins at the Owens River intake located centrally in Owens Valley, continuing 233 miles across mountains and desert. Its terminus is at "the Cascades" located on the east side of the Golden State Freeway (near the I-5 and 405 merge in Sylmar). The second aqueduct starts at the Haiwee Reservoir, just south of Owens Lake. It roughly parallels the original aqueduct and also terminates at the Cascades. It is important to note that unlike the first aqueduct, which operates and produces electricity through its gravity flow design, the second aqueduct requires supplemental energy to pump water for export.

The combined infrastructure of the system is made up of 61 miles of lined and unlined channels, 161 miles of concrete conduit, 43 miles of lined tunnels, 81 miles of steel and concrete pipe. Eight storage reservoirs plus ninety-nine tanks and smaller reservoirs are located within city limits. Both aqueducts took five years to construct.[2]

The primary source of water for the aqueduct system is seasonal runoff containing snowmelt from the eastern slopes of the Sierra Nevada which drains into the larger Owens Valley watershed providing surface and sub-surface water for export. In addition, LADWP collects and exports water from the Mono Basin and its related watersheds through its second aqueduct. In order to access this water for export, the city of Los Angeles pursued an aggressive policy to acquire water rights and land

within the Owens Valley in earlier part of the twentieth century. Today, the city is the largest private owner in the 75-mile long Owens Valley with its 314,000 acres predominantly located within the valley's floor. Most of this land, about 260,000 acres is leased for ranching purposes with a small percentage leased for commercial or recreation use that involves strict management requirements to ensure the productivity and overall health of the watershed. Nearly 95 percent of lands within Inyo County are either owned by the city of Los Angeles, the state of California or the federal government.[3]

Historically, the Los Angeles Aqueduct system provided nearly 75 percent of the city's water supply up through the 1980s. However, due to restrictions and reallocation of water for environmental concerns this amount has been reduced dramatically.[4] According to 2012 LADWP figures; 36 percent of Los Angeles' water comes from the Los Angeles Aqueduct system; 52 percent from the Metropolitan Water District's (MWD) Colorado River Aqueduct supply; 11 percent from local groundwater sources; and 1 percent is from recycled sources.[5] About 72 percent of this water is for residential use; 25 percent is for commercial and government uses; and 3 percent is for industrial use.[6] Some areas, such as San Pedro are served water from the MWD exclusively, others, such as Eagle Rock and east Los Angeles are served a mix of MWD and Los Angeles Aqueduct water. The remaining areas are predominately served a mix of water from the State Water Project combined with water from the Los Angeles Aqueduct.[7] Most agree that the highest quality and best tasting water comes from the Eastern Sierra supply.

Although the Los Angeles Aqueduct is no longer considered the nearly exclusive municipal water supply for the city, it remains for many Los Angelenos the symbolic source of its drinking water.

POI: Los Angeles Aqueduct Intake

Traveling on U.S. Route 395, exit east onto Goodale Road. Just past the LORP interpretive display and Los Angeles Aqueduct historical marker, you will encounter a closed ranch gate. Enter through the gate (be sure to close it behind you) and drive approximately 1.4 miles east on Goodale (dirt) to the intake.

Latitude: 36.9741011°

Longitude: -118.2113457°

POI: The Cascades (Los Angeles Aqueduct terminus)

A view of the Cascades may be seen east of Interstate 5 in Sylmar (near the 405/I-5 merge). An off-highway viewing area can be reached 0.1 mi north of the intersection of Foothill Blvd. and Balboa Blvd., 4 miles northwest of San Fernando.

Latitude: 34.324680°

Longitude: –118.497643°

Notes:

[1] Source: LADWP website *Los Angeles Aqueduct Facts & Figures*. Last accessed 9/24/12.

[2] Ibid.

[3] Greg James, "Changing Perspectives on Groundwater Management: The Owens Valley (2002)," Inyo County Water Department website. Last accessed 9/8/12.

[4] Interview with Fred Barker, Waterworks Engineer, Manager of Transmission Operations, LADWP in March 2012.

[5] Based on a five-year average as stated on LADWP website Water Facts & Figures dated March 16, 2012. Last accessed 9/24/12.

[6] "The Los Angeles Aqueduct," Aquafornia website. Last accessed 9/24/12.

[7] Ibid. Fred Barker interview.

Track 2: Alan Bacock
Big Pine Paiute tribal member Alan Bacock recounts the landscape of his ancestral people within the Owens Valley before European settlement.

A traditional Northern Paiute "toni" or wikiup circa late 1800s. Photo courtesy of the Braun Research Center Autry National Center.

Track 2: Alan Bacock, Big Pine Tribal Member

Most often, the saga of the Owens Valley "Water Wars" begins at the turn of the twentieth century when the city of Los Angeles began its determined effort to methodically acquire a remote river flowing with pristine snowmelt from the Eastern Sierra. This historical account fails to consider the "stolen water" story of the indigenous people who called this place home before the influx of European-American settlers descended on the valley during the mid-19th century. Owens Valley Paiute had their familial lands occupied and appropriated by these same settlers who, in turn, modeled their farm's irrigation ditches on the original ancient irrigation systems of the Paiute.[1]

The Owens Valley Pauite who refer to themselves as *Numa* or "People," were the first occupants of this region and have lived here many thousands of years.[2] The Owens Valley Paiute language belongs to the Western Numic branch of the Uto-Aztecan language family.

Historically, Owens Valley Paiute lived in semi-permanent camps and traveled to various locations within the valley and surrounding mountain areas where they practiced the seasonal gathering of seeds, nuts, berries, and roots for food, medical, and other, sacred, purposes. It has been suggested that the Indians constructed and maintained the ancient irrigation systems to specifically encourage the growth of these foodstuffs and to bring game into selected areas.[3] Piñon nuts were a critical winter food gathered in the mountains during the summer months and stored for winter use. Small game, deer, and native fish supplemented their largely vegetarian diet.[4]

Today, there are four federally recognized tribes in the Owens Valley: the Big Pine Band of Owens Valley Paiute Shoshone Indians of the Big Pine Reservation; the Fort Independence Indian Community of Paiute Indians of the Fort Independence Reservation; the Paiute-Shoshone Indians of the Lone Pine Community of the Lone Pine Reservation; and the Paiute-Shoshone Indians of the

Bishop Community of the Bishop Colony. About 2,500 tribal members were recorded to be living on area reservations in the 1990s.

In April 1937, Congress passed an Act that authorized the exchange of land and water rights between the federal government and the City of Los Angeles. The resulting Land Exchange Agreement of 1939 swapped 3,126 acres of federally reserved Indian lands for 1,511 acres of highly-taxed city-owned land.[5] The land exchange consolidated scattered parcels that the Owens Valley Indians held into three new reservations in Bishop, Big Pine, and Lone Pine. Although Los Angeles agreed to supply a set amount of water to the reservations, the land exchange did not include water rights. Because the Los Angeles City Charter would not permit sale of its water rights without the approval of two-thirds of city voters, it was negotiated at the time the deed was signed in 1939 that the matter resolving associated water rights would be settled at a later date. It was also agreed that the city of Los Angeles would supply, in perpetuity, four acre-feet of water per acre of land annually amongst the three new reservations.[6] To this day, historic water rights promised by the LADWP during the 1939 land exchange have not been fulfilled.

Notes:

[1] See John Walton, *Western Times and Water Wars: State, Culture, and Rebellion in California,* (Berkeley: University of California Press, 1993).

[2] The Owens Valley Paiute name is *Nün'wa Paya Hup Ca'a' Otuu'mu,* translated as "Coyotes' children living in the water ditch." Source: Barry Pritzker, "A Native American Encyclopedia," Oxford University Press, 1998, p. 227.

[3] Bishop Paiute tribal member, Harry Williams, suggests that the ancestral Paiute did not practice agriculture in the industrialized form we know today, but did so in a way to encourage growth and life in a selected area where food gathering activities were practiced. Interview with the author conducted January 2012.

[4] Trout (brown and rainbow) and other sport fishing stocks such as large-mouth bass were introduced into the Owens Valley primarily in the late 1900s. Native species, including Owens pupfish (*Cyprinodon radiosus*) and Owens tui chub (subspecies *Siphateles bicolor snyderi*), are considered endangered species by the state of California and the federal government.

[5] See the Owens Valley Indian Water Commission website: The Water Rights Crusade.

[6] Ibid.

Track 3: City of Destiny
William Kahrl and John Walton contextualize the historical underpinnings that led to the creation of the first Los Angeles Aqueduct.

J.B Lippincott (left), Fred Eaton (center), William Mulholland (right). Photo courtesy LADWP.

Track 3: City of Destiny

Los Angeles rapidly increased its population at the beginning of the twentieth century. As the city grew, it began to face the limits of its local, natural water supply, forcing city officials to seek a more substantial supply source. Historically, Los Angeles' water supply was drawn from the Los Angeles River and was distributed to the city through a series of hollowed logs and ditches, or "zanjas," and later, through a system of reservoirs, plumping plants, and water mains. The system was privately owned by the Los Angeles City Water Company, which had maintained and operated it since 1868. In 1902, after the water company's thirty-year lease had expired in 1898, the city purchased it for $2 million, thus creating one of the first publicly owned utilities in the nation—known today as the Los Angeles Department of Water and Power (LADWP).

At the time of sale, William Mulholland headed the private company and continued at the helm when the utility was transferred into public ownership. Mulholland, a hard-working Irish immigrant and a self-taught hydraulic engineer with no formal education, began his tenure with the water company in 1878 as a ditch digger, eventually moving up in rank to "zanjero," or head water overseer, and later became LADWP's first superintendent. William Karhl points out that the newly formed Bureau of Water Works and Supply "inherited" Mulholland, as he was the only person who knew where all of the pipes were located in the original hydraulic system, since no maps existed.

In the years leading up to the purchase and creation of Bureau of Water Works and Supply—Fred Eaton, a former mayor of Los Angeles who had earlier headed the Los Angeles City Water Company, began to set his sights on a distant river lying some two hundred miles away in the remote Eastern Sierra. Eaton recognized the river's potential as a reliable and sizable resource while also envisioning his own involvement in a project to harness the river for his own personal gain. Eaton first visited the Owens Valley in 1862, while traveling on irrigation related business for a private client. There, he noted the significant water supply of the Owens River, which was sustained by pristine Sierra snowmelt that terminated at a saline basin with no outlet forming vast Owens Lake. Eaton, like many of his contemporaries, considered this unused water supply a wasted valuable

resource. Eaton began to publicly promote the idea of securing the Owens River through land and water rights purchases to guarantee the city a consistent supply from this remote resource. Mulholland was brought on board after Eaton convinced him to travel up to the Owens Valley to see the river himself.

Initially, Eaton proposed the aqueduct project as a joint venture, with the suggestion that he would personally undertake procurement of land and water rights required to build the project. Mulholland recognized that lands withdrawn from the public trust intended for settlement through the federal government could never be obtained for a project of this size that was privately owned—hence an incentive to create a publicly owned utility.

By 1902, Los Angeles had had more than 100,000 residents, reflecting a doubling of its population within thirty years. [1] Increasingly aware that the city's natural water supply was insufficient for the municipal growth that city businessmen and boosters demanded, Mulholland, Eaton with others began to gather political and economic backing to support their vision of a gravity-fed water conveyance system that would bring the waters of the Owens River to Los Angeles. The public was encouraged to support the proposed aqueduct through opinionated newspaper articles published by Harrison Gray Otis' Los Angeles *Times* supporting the project, pro-aqueduct civic events and speeches, and an alleged "drought" that made the project seem all the more urgent.[2]

While the city was in the early stages of developing the aqueduct project, Congress had enacted the 1902 Reclamation Act whose purpose was to open and settle undeveloped lands in the western U.S. through federally funded irrigation projects, resulting in the creation of the U.S. Bureau of Reclamation. One of the first projects considered for development was an irrigation system within the Owens Valley that was unanimously supported by farming, ranching and rural business communities of the region. Surveys conducted suggested that 185,000 acres of land could be brought into production if an adequate irrigation and drainage system were constructed.[3] Land withdrawals and necessary other steps were taken to initiate the public irrigation project.

Joseph Barlow Lippincott, an engineer with the newly formed Reclamation Service, who was also a professional associate and personal friend both of Eaton and Mulholland, had independently traveled to the Owens Valley to conduct research and head the bureau's anticipated federal project. Mulholland requested that Lippincott—who was also acting as a private consultant for the city's project—provide him with the bureau stream flow reports and other data through his superior, Frederick H. Newell, which helped Mulholland determine and convince city officials that a gravity-fed aqueduct design was indeed viable. Consequently, the two projects became fatefully intertwined through Lippincott's association with both parties.

The relationship of these three men under the entities they represented posed a considerable conflict of interest between the city of Los Angeles and the Bureau's proposed federal project. This was especially apparent when Eaton began to covertly purchase riparian land, water rights, and options within the valley during 1905 *while* conducting Reclamation Service research on behalf of Lippincott.[4] Owens Valley farmers and ranchers were duped into thinking that they were selling their land to Eaton for the Reclamation's public irrigation project—promoted to bolster their own local economy—when in fact they were selling their land to an undercover agent representing the city of Los Angeles. The citizens were kept in the dark primarily for financial reasons—the city wanted to avoid inflated sale prices at all costs. Even if Eaton did not act in bad faith or pose implicitly as a Reclamation representative while conducting the transactions, he failed to correct any misimpressions he had made.

By the time the local Owens Valley citizenry got wind of the fiasco, their fate had already been sealed: less than two days after the Board of Engineers had met with the Secretary of the Interior to discuss the feasibility of the Bureau's federal project, The Los Angeles *Times* enthusiastically published the headline announcing, "Titanic Project to Give City a River" on July 29th, 1905. In contrast, The *Inyo Register* ran in response, "Los Angeles Plots Destruction, Would Take Owens River, Lay Lands Waste, Ruin People, Homes, and Communities."[4]

The Bureau of Reclamation announced that they had dropped their proposed Owens Valley irrigation project because it was no longer financially viable due to Eaton's extensive purchase of prime riparian land, water rights, and options—including the Long Valley Reservoir site originally slated for development by the Bureau.[5] The public lands set aside for the proposed irrigation development did not return to the public domain, instead Forest Service Chief Gifford Pinchot, under direction of then President Theodore Roosevelt, transferred the lands into the Inyo National Forest (mostly treeless) guaranteeing that the Owens Valley watershed and surrounding region would remain undeveloped. Roosevelt gave his blessing to the city's project, citing, "the greatest good for the greatest number."

The Bureau of Reclamation scandal resulted in a special federal investigation that ultimately found Lippincott and the city of Los Angeles' misrepresented dealings deceptive and exploitative—although neither party was ultimately charged with a criminal offense. Lippincott resigned from the Bureau and within a week took a job as Mulholland's assistant.

For further reading:

- William Kahrl, *Water and Power: The Conflict over Los Angeles Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982).
- John Walton, *Western Times and Water Wars: State, Culture, and Rebellion* (Berkeley: University of California Press, 1992).

Notes:

[1] Source: LADWP website, Los Angeles Aqueduct Facts & History. Last accessed 10/5/12.

[2] Los Angeles *Times* publisher Harrison Gray Otis was one of the wealthy businessmen involved with an investment group known as the San Fernando Land Syndicate which benefited financially from lucrative real estate investments made with insider knowledge that the Los Angeles Aqueduct would be constructed.

[3] Source: LADWP website, Los Angeles Aqueduct Facts & History. Last accessed 10/5/12.

[4] William Kahrl, *Water and Power: The Conflict over Los Angeles Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982), p. 103.

[5] A huge riff formed between Mulholland and Eaton when Mulholland refused to purchase Long Valley from Eaton for a storage reservoir. The two men remained at odds with each other until near the end of their lives, when both men were broken (Mulholland from the tragic St. Francis Dam disaster) and Eaton from failed dreams.

Credits:

Voice at beginning of track is Ernest Kinney, a life-long resident of Owens Valley, who worked as mule packer and guide early in life and later as an artist. Kinney was interviewed by Richard Potashin for the Eastern California Museum Oral History Program (ECM #69). Recording courtesy Inyo County Eastern California Museum. Archival soundtrack excerpt from City Of Destiny produced by Standard Oil in 1947.

Track 4: There It Is—Take It!
William Kahrl and John Walton continue with an overview of events that led to civil unrest within the Owens Valley during the 1920s.

Owens Valley citizenry gather during the Alabama Gates occupation on November 20th, 1924. Photo courtesy of the Loyola Marymont Digital Collections.

Track 4: There It Is—Take It!

"That which Los Angeles *has not* and *wills not, is not*."

Commemorative of the Official Opening of the Los Angeles Aqueduct and Exposition Park, November 5th and 6th, 1913

In 1907, Los Angeles voters approved a $23 million bond issue allowing construction to begin on the aqueduct the following year. This was the second bond issue supporting the project; in 1905 voters had passed a successful $1.5 million bond to initiate design and development of the aqueduct which was backed by a group of ten wealthy Los Angeles businessman, including Harrison Gray Otis, publisher of the Los Angeles Times, and railroad magnates E.H. Harrison, Henry Huntington, and Moses Sherman—who was also one of the Los Angeles Board of Water Commissioners at the time. This group, known as the San Fernando Syndicate, had used insider information provided by Sherman and others to purchase 16,000 acres at $35 an acre in the rural San Fernando Valley north of the city—real estate that would be worth millions if water was brought to the area.[1] The group of investors hit a snag when President Theodore Roosevelt, who had decided to support the aqueduct project under his Progressive agenda, realized that this group of powerful capitalists would reap unprecedented wealth if the aqueduct was indeed constructed and put into service. The city's project was contingent on securing the rights-of-way through federal public lands necessary to bring the water across the Mojave Desert.

In an effort to curtail the speculation and special interests, Roosevelt ultimately decided to limit the sale of the water exported from the Eastern Sierra within the city of Los Angeles—resale of water for profit outside city limits was excluded. At the time, the San Fernando Valley was a sparsely settled agricultural area not yet part of Los Angeles. To deal with the setback, city leaders gathered the necessary public support to annex the San Fernando Valley into Los Angeles by 1915, resulting in the valley's unprecedented development and growth just as the syndicate members had planned. Construction of the 233-mile-long gravity-fed aqueduct began in 1908 was completed in 1913, setting records along the way for a total cost of about $23 million. An estimated 5,000 workers labored under extreme environmental conditions using new technologies including Caterpillar traction trailers and

steam shovels with more archaic, but dependable ones such as fifty-two mule teams. When completed, the new aqueduct was considered the longest aqueduct of its kind in the world.

On November 5th, 1913, a public dedication ceremony was held at the Cascades, the aqueduct's terminus near Sylmar located at the northern edge of the San Fernando Valley. William Mulholland addressed the crowd announcing, "This rude platform is an altar, and on it we are here consecrating this water supply and dedicating this aqueduct to you and your children and your children's children—for all time." Mulholland then turned to Mayor J.J. Rose and uttered his famous statement, "There it is Mr. Mayor. Take it," as the water first gushed down the spillway. The audience celebrated by dipping cups into the flowing stream.

Through the teens, life in Owens Valley remained relatively calm. Farmers and ranchers who had not sold during the first wave of sales continued to prosper until a real drought hit the region, setting off a growing demand for more water in both Owens Valley and Los Angeles—now rapidly expanding at an unprecedented rate of growth. At the time, Los Angeles was only exporting modest surface river flows. Owens Valley citizens had also been led to believe that the city would only export surplus water not used by valley agriculture, suggesting a somewhat cooperative arrangement of sorts.

As a solution to the demands brought on by the drought, the city began drilling wells for extensive groundwater pumping to supplement their surface exports. Between 1923 and 1926, fifty-two new wells were installed alone in a one-mile zone adjacent to the aqueduct in Independence.[2] By 1930, a total of 171 wells ranging from depths of 100 to 850 were in service within the valley powered by efficient electric turbines pumping at full capacity. Consequently, groundwater levels dropped drastically, forcing the city to look farther north for additional pump sites.[3]

At the same time, Owens Valley farmers and ranchers began using more water upstream of the aqueduct intake. Because of this competition, the city commenced on another series of hushed land and water right purchases during the early 1920s. The sales pitted neighbor against neighbor due to the "checkerboard" purchasing pattern of the properties they obtained. The city would pump their newly acquired properties depleting the groundwater levels of those who had held out, which, in turn, focused intensified resentment towards the city. As the city purchased the majority of the land on the valley floor, local businesses began to fail when their customer base moved away in search of better opportunities or simply because their livelihoods were destroyed.[4]

A resistance movement of Owens Valley citizenry developed in response, organized and led by local bankers Mark and Wilfred Watterson in an effort to convince Los Angeles to provide more favorable rates for the properties the city desired—after all, if the farmers had to sell, they wanted the price to be fair.

"It is deplorable that the farmers of any community should have to continually fight the encroachment of any large city. If the city must have the water, and it seems that such is the case, what wiser plan would there be than to make preparations to buy out the entire valley, not at your price, not at our price, but by a reasonable price fixed by a board of appraisers....We recommend either complete purchase of the valley at a fair valuation or the institution of a program which will bring the proper agricultural development of the Owens Valley." [5]

When negotiations failed, the resistance movement turned violent, setting off a series of mysterious dynamite attacks on the aqueduct that began in 1924 and continued through 1928. During the first wave of 1924 attacks, the city responded by sending armed trainloads of nightriders and Pinkerton guards bearing Winchesters, tommy guns, and sawed-off shotguns up to the valley with orders to shoot to kill anyone loitering around the aqueduct in an attempt to control the violence and reveal the agitators.

The infamous Alabama Gates occupation, however, was non-violent: up to seventy unmasked and seemingly unarmed men took over the aqueduct spillway gate and facility just north of Lone Pine with no contest on November 16th, 1924, releasing water flowing south to Los Angeles back into the dry Owens River streambed.

During the four-day event, over seven hundred Owens Valley men, woman, and children joined the occupation in a great act of civil disobedience.[6] The well-publicized event was a festive affair: townspeople brought food, barbecue, and celebrated the takeover with a community picnic and Western movie star Tom Mix, who was filming at the time in the nearby Alabama Hills, brought his crew and a band to show solidarity with the protesters. [7] Inyo County Sheriff Charles A. Collins refused to arrest the "insurgents" and instead, joined the picnic. Newspapers in Los Angeles and around the world reported on the occupation, creating sympathy for their cause internationally.

By the end of the decade, the resistance had failed when Inyo County Bank, owned by the Wattersons, collapsed after their bank was subject to an audit which some believed resulted through pressure by Los Angeles officials. An investigation into the matter revealed that the Wattersons had embezzled the savings of valley residents to support the resistance. Many valley people who had lost everything generally felt that the brothers were working for the best interest of the community when the bank failed. Both brothers served jail terms and never returned to the valley.

By 1933, Los Angeles had acquired 85 percent of all residential and commercial properties in valley towns and 95 percent of all farm and ranches along the valley floor.[8] Citizen outrage did eventually lead to the divestment of some town properties by the city, although it retained all associated water rights. Today, the city remains the largest private owner in Owens Valley, with its 314,000 acres predominantly located within the valley's floor.

For further reading:

- William Kahrl, *Water and Power: The Conflict over Los Angeles Water Supply in the Owens Valley (*Berkeley: University of California Press, 1982).
- John Walton, *Western Times and Water Wars: State, Culture, and Rebellion* (Berkeley: University of California Press, 1992).

POI: Alabama Gates

A view of the Alabama Gates (site of the 1924 Alabama Gates Occupation) can be viewed best while heading north on U.S. Route 395. The structure is dramatically lit at night. A historical marker provided by E Clampus Vitus can be viewed at a pull-off just north of the gates, accessed only from the southbound lane about 0.6 miles south of Moffat Ranch Road.

Latitude: 36.672816°

Longitude: -118.097659°

Notes:

[1] William Kahrl, *Water and Power: The Conflict over Los Angeles Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982), p. 96.

[2] Ibid. p. 285.

[3] Ibid. p. 285.

[4] John Walton's *Western Times and Water Wars* discusses in detail how the failed Owens Valley agriculture economy directly impacted Native Americans working throughout the valley, many of whom depended on agricultural related jobs the valley farmers and ranchers provided.

[5] John Walton, *Western Times and Water Wars: State, Culture, and Rebellion* (Berkeley: University of California Press, 1992), p. 160.

[6] Ibid. p. 164.

[7] Ibid. p. 164.

[8] Greg James, "Changing Perspectives on Groundwater Management: The Owens Valley (2002)," Inyo County Water Department website. Last accessed 9/8/12.

Credits:

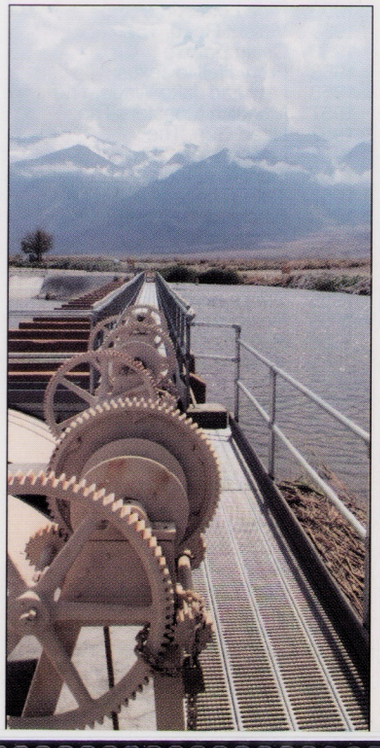
Archival soundtrack excerpt from *Frontier Horizon* (The Three Mesquiteers series, Republic Pictures, 1939) starring John Wayne, Ray Corrrigan, and Raymond Hatton.

100 years of the Los Angeles Aqueduct

Considered the lifeblood of Southern California and the very reason the vast, arid area has been was able to grow to behemoth proportions, the Los Angeles Aqueduct celebrates its centennial anniversary in 2013. The Los Angeles Aqueduct, considered one of the engineering marvels of humankind and runs its entire 223-mile course by gravity alone, was completed in 1913.

In its simplest terms, the aqueduct transports water from the Owens Valley - its lakes, streams and groundwater - to Southern California via the Owens River as well as man made canals and pumps.

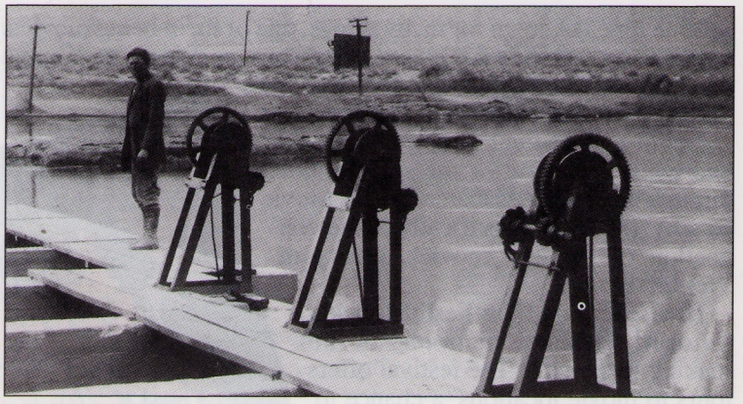
The water in the Owens River comes from runoff from the Sierra Nevada and the groundwater created. The Sierra Nevada has been called a giant well, literally soaking up water through the winter and letting go of it in the summer. On the west side the water goes to feed the Central Valley of California, known as the bread basket of the planet. According to the California Department of Food and Agriculture, California is the world's fifth largest supplier of food and agriculture commodities. The water coming off the east side, known locally as the Eastside, feeds the Owens Valley and points north. There is no one that would contend with these statements.



It may be contentious, however, to declare in writing as litigation is still pending, some of it is nearly a half-century old, that the aqueduct has effectively drained the water from the valley, which was once a major agricultural area in its own right.

For example, the place called Manzanar, the former Japanese Internment / Concentration Camp of World War II, is a Spanish word for "apple orchard."

Owens Lake to the southeast of Lone Pine once held paddle boats that ferried the many ore deposits, from gold to salt from Keeler and other mining towns toward Death Valley to the train near Lone Pine. The lake is now the site of one of the most expensive restoration projects on the planet. There



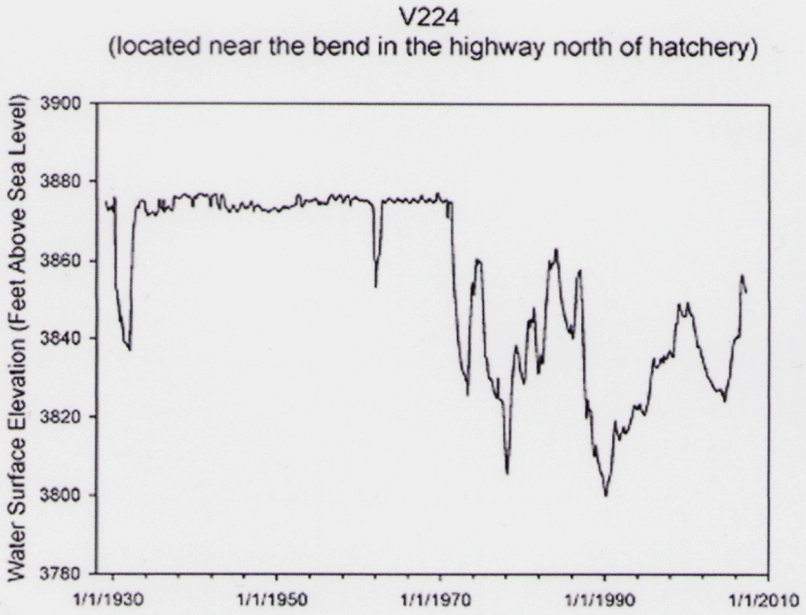
are mitigation efforts, such as planting grass to filling up sections with water, to try and keep particulates down. Particulates are small bits of cadmium, chromium, chlorine and iron that blow around in the wind. The particulates are unhealthy to breath in.

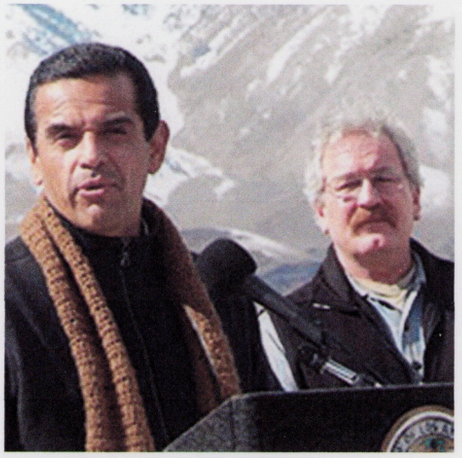
The Los Angeles Department of Water and Power is working diligently to fix the problem.

The way the water was obtained, and the rights to the water still rub many local the wrong way.

There are some locals who would argue that if it weren't for the aqueduct, the Owens Valley would be one major city from one side to the other.

For good or bad, the LA Aqueduct has altered the Owens Valley forever.





Track 5: Mark Bagley
Mark Bagley of the OVC illuminates the environmental impacts within the Owens Valley that ushered in the modern "Water Wars."

Graph of groundwater pumping monitoring well V224 showing watertable decline at Fish Springs Hatchery near Big Pine that began in the 1970s to fill the second barrel of the Los Angeles Aqueduct. Image courtesy Alan Bacock/Big Pine Tribe.

Track 5: Mark Bagley, Owens Valley Committee

With the defeat of the Owens Valley resistance movement in the late 1920s, the valley and its dwindling population entered into a state of acquiescence as the city's "water colony." At the beginning of the 1930s, nearly 50 miles of the Owens River was dry and by 1926 Owens Lake had been drained entirely. Ninety-five percent of all previous privately owned farms, ranchland, commercial town sites and buildings were now owned by the city of Los Angeles. Although the 1931 County of Origin statute protected other regions in California from a similar fate, the damage in Owens Valley was already complete.

Over time, the region transitioned, relying on a new economic model to sustain the rural communities dotting the valley floor based on tourism rather than agriculture. Instead of providing agricultural products and other commodities, the region now utilized the majestic Eastern Sierra as the scenic backdrop for sports fishing, hiking, camping, and other outdoor activities. Father John L. Crowley, a popular Catholic priest known locally as "the desert padre" is credited in recognizing and promoting the region's potential for environmental tourism.

Los Angeles continued with the necessary steps to increase its interminable water supply demands. By 1940, LADWP completed an eleven-mile tunnel connecting the Mono Basin with the upper Owens River in Long Valley that increased the aqueduct's capacity by thirty-five percent. Concurrently, Bishop Ranchers initiated a fight to protect the "Bishop Cone" area from LADWP groundwater pumping and export and won.

In 1963, the city of Los Angeles approved plans to construct its "second barrel" aqueduct with a capacity of 290 cubic feet per second or 300,000 acre feet per year (in contrast, the initial aqueduct constructed in 1913 has a capacity of 485 cfs). [1] This addition would increase the amount of water

LADWP could export from the Eastern Sierra by 50 percent from three sources: increased surface flows from the Mono Basin and the Owens Valley, reduced irrigation on city of Los Angeles owned properties in Owens and Mono counties, and increased groundwater pumping within Owens Valley.

Groundwater pumping activities began in the valley as early as 1918 when Mulholland determined that surface flows, namely the entire flow of the Owens River and its associated inflows, were not enough to supply his thirsty, growing metropolis into the future.[2] Even with supplemental pumping, large swaths of groundwater dependent plants and ecosystems still covered the valley floor up to 1970.

Unfortunately, things began to drastically change when the "second barrel" was finally put into service in 1972. At this time, LADWP began a substantial increase in its groundwater pumping for export activities. Native vegetation and meadow ecosystems dependent on groundwater began to wither, to be replaced by opportunist invasive weed species, and became "desertified."[3] Natural springs, seeps, and wetlands disappeared. Once productive agricultural lands, now denied irrigation, returned to arid desert scrub. Mature, stately trees lining the town streets that never required additional watering in the past began to die. Dust storms occurred at more regular intervals in areas far north of the dry Owens lakebed. Community residents became agitated at what they saw around them and took action, urging their officials to follow suit, thus initiating an era of ligation between Inyo County and the city of Los Angeles that lasted more than twenty-five years.

Notes:

[1] LADWP website: Los Angeles Aqueduct Facts. Last accessed 9/8/12.

[2] William Kahrl, "Water and Power: The Conflict over Los Angeles' Water Supply in the Owens Valley" (Berkeley: University of California Press, 1982), p. 254.

[3] Generally, the alkali meadow habitat found within the Owens Valley relies on shallow groundwater to survive. In contrast, grasslands, which are not naturally present in Owens Valley, are precipitation dependent. Because Owens Valley is a rain-shadow desert, it receives very little rainfall annually.
For more detailed information on this topic, see: C.J. Klingler, "A brief overview: recent Owens Valley water history and the OVC" and Daniel Pritchett, "Desertification as usual: groundwater management under the Inyo-LA Long Term Water Agreement," both at the Owens Valley Committee website.

Track 6: Greg James
As former Inyo County Water Department Director, Greg James helped shape the Inyo-LA Long Term Water Agreement signed in 1991.

Signing the historic Inyo-LA Long Term Water Agreement in 1991. Mayor Tom Bradley (left); Inyo County Supervisor, Keith Bright (middle); and Inyo County Water Dept. Director, Greg James (right). Photo courtesy County of Inyo, Eastern California Museum.

Track 6: Greg James, lawyer

In 1970, the same year the second aqueduct was put into service, a new California state law designed to protect the environment went into effect. This measure, known as the California Environmental Quality Act, or CEQA, required state agencies to consider the ecological repercussions of development or other related activities before commencement of such activity in the form of an Environmental Impact Report (EIR). Inyo County relied on this measure to effectively sue the city for its intensified water exportation activities when Los Angeles announced that they planned to use the "second barrel" to its fullest capacity by 1972.

The outcome of the ligation proceedings forced LADWP to file an EIR. The agency responded by installing water meters throughout the valley when, historically, valley residents and business had received their water for a flat rate service—an act that effectively outraged the community.[1] LADWP countersued Inyo County arguing that it was not responsible for providing an EIR because the second aqueduct had been constructed prior to the implementation of CEQA and was consequently exempt from compliance. A judge in 1973 agreed otherwise, stating that indeed the actual construction of the aqueduct was not subject to an EIR, however, *the water gathering activities used to fill the aqueduct were*. Subsequently, two legally inadequate EIRs were submitted by the city by 1979, with both rejected by the court. Throughout this ten-year period, the LADWP continued to pump groundwater at unsustainable levels.

In 1980, Inyo County voters responded by passing a groundwater ordinance, an initiative to regulate groundwater pumping with a management plan and pumping permit procedure. LADWP fought the initiative in court, with the judge deeming the ordinance unconstitutional in 1983. Because of lack of county funds to appeal the ruling, Inyo County and LADWP officials entered into closed session negotiations with the goal of developing a long-term groundwater management plan within five years.[2]

Still, many community members and other group stakeholders were not satisfied with the direction of the interim management plan. This led to the formation in 1983 of the citizen-directed Owens Valley Committee (OVC), which followed through with lawsuits of its own. Although the OVC eventually ended up supporting the management plan, it determined that the resulting EIR developed jointly by the city of Los Angeles and the Inyo County was inadequate in that it did not properly describe the earlier impacts caused in 1970–1990, nor did it create a benchmark description of the valley's environment prior to 1970 to base a proper drought recovery plan on. Concurrently, an Inyo County recall election reflected the displeasure many area residents felt about the situation.

Eventually, the Inyo-LA Long Term Water Agreement (LTWA) was signed in late 1991 in spite of widespread community and other stakeholder objections to the EIR. Both Inyo County and Los Angeles made concessions in order to approve the compromise agreement. Shortly thereafter, implementation of the required mitigation projects such as the Lower Owens River Project (LORP) were stalled due to conflicts over implementation disagreements with other federal agencies such as the California Department of Fish and Game. From 1993 to 1997, after a series of negotiations took place, a Memorandum of Understanding (MOU) resulted in 1997, outlining a series of required studies and mitigation projects between Inyo County, LADWP, OVC, the Owens Valley Indian Water Commission, the California Department of Fish and Game, Sierra Club, and other "friends of the court" stakeholder groups. The MOU had one important caveat—it did not include enforcement measures.

Deadlines for a draft EIR came and went and mitigation extension deadlines were ignored or complicated by planning delays such as a disagreement for the size of the pumpback station that was to be located at the delta of Owens Lake, as well as the EPA's federal involvement with the LORP. Again, back and forth litigation efforts ensued. Concurrently, negotiations began with the LADWP and the Great Basin Unified Air Pollution Control District for the Owens Lake bed re-watering mitigation project, which began in late 2001.

As it became clear that LADWP would not meet the 2005 deadline to begin rewatering the 62-mile stretch of the Lower Owens River as required by the MOU, Judge Lee Cooper, Jr. of the Inyo County Superior Court determined that "DWP needs the threat of immediate sanctions before it gets busy on the LORP."[3] He then outlined a court order to stop all water exports from the Owens Valley to Los Angeles via the second aqueduct if LADWP failed to commence the LORP by January 25, 2007. Judge Cooper also consequently fined them $5,000 a day until the flows of the river reached the agreed upon forty cubic feet per second and included other requirements for groundwater replenishment in the Owens Valley.

Notes:

[1] See Track 10: Benett Kessler for more information.

[2] In a meeting with Inyo County Water Commission on October 8, 2001, LADWP Water Commissioner, Dominic Rubalcava stated that the LADWP litigation budget alone exceeds Inyo County's entire annual budget. Noted by Greg James who was present at the meeting.

[3] C.J. Klingler, "A brief overview: recent Owens Valley water history and the OVC," Owens Valley Committee website. Last accessed 9/8/12.

For more detailed information on this topic, see Greg James, "Changing Perspectives on Groundwater Management: The Owens Valley (2002)," Inyo County Water Department website. Last accessed 9/8/12.

Track 7: Stan Matlick
Three generations of the Matlick family have ranched in the Bishop area on land they originally homesteaded over 100 years ago.

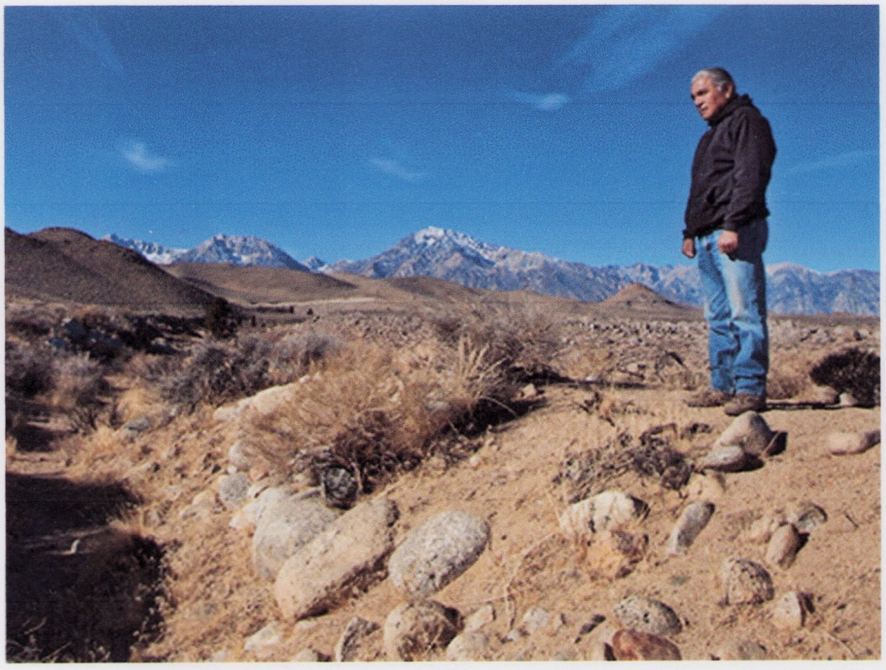
The Matlicks of Bishop, CA. Allen Matlick is in middle row center. Stan's father, Ed is just above him. Photo courtesy Carol Stephens.

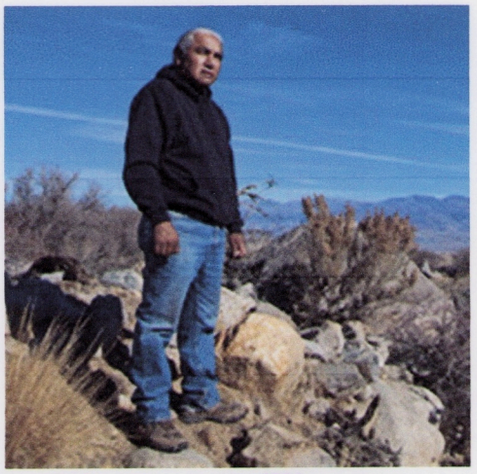
Track 7: Stan Matlick, retired rancher

Three generations of Matlick family have ranched in the Bishop area on land they originally homesteaded in the 1870s. Now retired, Stan Matlick is an outspoken critic of the Inyo-LA Long Term Water Agreement and remains an active, candid voice at community meetings dealing with water-related issues in the valley. According to family lore, Stan's grandfather once forced LADWP representatives off his property by gunpoint.

Stan's father, Edwin Matlick, was instrumental in winning the Hillside Decree, a historic 1940 court order against the city of Los Angeles exempting the "Bishop Cone" area surrounding the town of Bishop from groundwater pumping for export by LADWP. Stan Matlick himself continued the fight in 1980s when the decree was challenged in court by LADWP. Matlick financed the litigation and court costs with his own money and eventually won. The Bishop Cone is the only area currently with protections in place from groundwater pumping and export within the Owens Valley.

During the initial interview, Stan recalled a popular family story involving his grandfather, Allen Matlick. LADWP representatives approached his grandfather in the early 1930s inquiring whether or not he would sell his ranch. As the story goes, Al confronted the men on the front porch of his home with rifle in hand threatening to kill 'em if they didn't get off his land immediately. A younger female cousin witnessed the entire exchange while hiding in bushes nearby. Frightened, the girl ran home telling her mother, "Grandpa has a gun and he is going to kill a bunch of men!" Al didn't shoot them, nor did he sell his ranch. The Matlicks are one of the few families in the valley who managed to keep control of their original land holdings and water rights while Los Angeles continued expanded their land, property, and water rights purchases in Inyo and Mono Counties during the early part of the last century.





Track 8: Harry Williams
Harry Williams, a Bishop Paiute tribal member and environmental activist, discusses the ancient irrigation systems of the Paiute.

Harry Williams overlooking one of the Bishop area ancient irrigation ditches originally constructed by ancestral Paiute.

Track 8: Harry Williams, Bishop Paiute Tribal Member

Harry Williams is an environmental activist and Bishop Paiute tribal member. As an active citizen activist, Williams provides a candid and opinionated voice in community meetings related to LADWP water-related issues and the environment. Harry also volunteers as an educational guest speaker with the White Mountain Research Station (WMRS). Williams makes it a point to discuss the "political side of land and water in Owens Valley" with his student audiences.

During Harry's audio track he shares a letter he received from a Los Angeles area student who attended one of his WMRS talks. In the girl's note she astutely shares her impressions while driving back from the Owens Valley: "It was so strange to drive through the desert afterwards for hours until we reached L.A. and saw proof of Owens Valley springing up in all the lawns and fountains in the area. Thank you for opening my eyes to the hardships, past & present occurring in Owens Valley."

As a child, Harry hunted rabbits and explored the outlying foothills of West Bishop—an area that once was extensively managed and utilized by his ancestors. There, he unknowingly encountered an ancient irrigation diversion made out of wood. Later he began to reflect on its purpose, eventually learning that it was part of a series of ancient irrigation systems built by his forebears.

In his research, he learned that the ancestral Paiute word for irrigating is *"tuvadut."* The Paiute elected an irrigator head, or "*tuvaiju,*" whose honorary position was to direct and maintain the ditch network.[1] The ancestral Paiute did not cultivate the land through tillage and row planting, but instead irrigated an area sufficiently to encourage the growth of essential plant life providing grasses, seeds, berries, and roots for a variety of purposes as well as habitat for hunted game.

Four- to two-square-mile plot locations were chosen by the Paiute for their ease of dam and ditch construction, the land's ability to drain properly, and plot's potential for seed yield. Ditch repairs and maintenance were carried out communally—about 25 men worked with the *tuvaiju* to construct a dam of boulders, brush, sticks, sod, and mud. [2] Once constructed, the *tuvaiju* tended the system independently.

Julian Steward, in his 1933, "*Ethnography of the Owens Valley Paiute*," is of the few early researchers to mention these ancient irrigation systems and to document their construction. In his text, he mentions the use of *apavado*, an eight-foot pole about four inches in diameter used to divert the water into the ditch network.[3] It seems that selected areas were flooded seasonally on an alternating schedule to avoid exhausting the soil of nutrients. The draining of the stream meant that fish could be harvested easily, providing an additional benefit. During the harvest, the dam was destroyed so the stream could return to its natural channel. The "Paiute Ditch" near Bishop Creek was actually used by ranchers in the early part of the last century and is still visually traceable.[4]

Mural Controversy

Against the backdrop of the 2005 court battle when an Inyo County Superior Court judge fined the city of Los Angeles $5000 a day to begin remediation efforts outlined in the 1997 MOU, the Bishop Mural Society commissioned John Pugh, a San Francisco Bay area artist to create a controversial mural in downtown Bishop titled "Drain."

As Williams points out in his interview, the trompe l'oeil painted mural features a LADWP pump that "signifies that LA started pumping the life and color out of the area" among an idealized orchard setting. It is an understatement to say that the mural was unpopular with the department's then region manager, Gene L. Coufal, who reportedly withdrew LADWP's $500 donation for the mural's creation. Coufal's wife even went so far as to warn the building's owner where the mural is painted "that employees of the utility would not shop there," later apologizing for her threat. [5] Coufal vowed to "more closely scrutinize all requests for assistance throughout the Owens Valley" after the incident.

Consequently, the regional department's response to the mural was highly frowned upon by the downtown administration, but illustrates the historical tension between Owens Valley community residents and the LADWP's local management.

POI: "Drain" Mural in Bishop

John Pugh's controversial mural painted in 2005 is located on a building at 400 W Line St, Bishop, CA 93514.

Latitude: 37.361229°

Longitude: -118.398312°

Notes:

[1] Julian Steward, *Ethnography of the Owens Valley Paiute* (Berkeley: University of California Press, 1933).

[2] Ibid.

[3] Ibid.

[4] University of California Berkeley Environmental Policy and Management researcher, Jenna Cavelle, is working with Williams to document and "restore cultural memory associated with their ancient irrigation systems" in a funded research project on the subject. For more information, visit the project synopsis, Recovering Cultural Memory: Irrigation Systems of the Owens Valley Paiute Indians. I cited her paper and sources for this section.

[5] Randal C. Archibold, "Mural Comments About Water, and a City Doesn't Like It," New York *Times*, November 3, 2005.

Daris Moxley holding a LADWP report showing a photographic comparison of what her pasture looked like historically and how it looks today.

Track 9: Daris Moxley, rancher

Daris Moxley and her husband operate a 200-acre-plus LADWP ranch lease in Bishop that has been managed by her family since the early 1930s. Today she irrigates only 99 acres of her lease, leaving the rest dry as prescribed in her lease agreement with LADWP. Over the years, she has seen the irrigated portion of her lease property decline in quality due to cutbacks in irrigation allotments that are set by the department. Moxley has been one of the few voices from within the local ranching community to express her concern over LADWP's current irrigated pasture management policies, which she feels are inadequate. Although many Owens Valley ranchers are supportive of their landlord, many refrain from any public criticism out fear of provocation or possibly losing their lease entirely.

During her interview Moxley recalled how the high the groundwater table was years ago, "When we'd dig post holes we'd go down about five feet and it would be scramble to get your post in before the hole would fill up with water. Now, this spring, my husband and I were digging a hole and we were down to ten feet and we barely had moist soil—we never got a drop of water! This was within four feet of a running ditch." She is greatly concerned that LADWP pumping overdrafts are severely lowering the water table in her area beyond recovery.

Historically, ranching continued in the Owens Valley even though 211,665 acres of valley floor had been purchased by the city in the early 1930s.[1] Shortly thereafter, LADWP leased most of the agricultural acreage back to the original ranch owners in the form of a five-year lease. The lease agreement stated that it could be cancelled without prior notification if the water was needed during a drought period or if that year's runoff was insufficient for the city or other in-valley irrigation uses. Any property improvements, construction of out buildings or repairs were, and continue to be, the financial responsibility of the lessee. To appreciate the extent of the agrarian changes that took place in the valley over time, note that in 1920 75,000 acres were still being irrigated as pasture and by 1960 approximately 30,000 acres remained. By 2002, less than a 12,000 acres were being irrigated for ranching purposes.[2]

As of 2006, fifty ranch lease agreements were in Owens Valley and ten within Mono County. The lessee is charged with monitoring and maintaining their lease with the goal to "provide a reliable high quality water supply to Los Angeles." This arrangement allows the department to concentrate on its water gathering activities rather than land maintenance and its associated costs. Irrigated pasture helps to recharge the groundwater table, which LADWP eventually pumps back up for export into the aqueduct. Lease renewals are not subject to competitive bidding once the five-year period is up and are generally renewed to the existing lessee. Lessees must have an approved grazing management plan in place and maintain their lease. They are also required to keep 75 percent of their leased lands open to the public for select recreational activities, which has significantly contributed to the valley's appeal as a undeveloped open space region.

Irrigated lands on LADWP ranch leases are subject to regulation and must maintain the 1981-82 baseline standards for vegetation management as stated in the Inyo-LA Long Term Water Agreement (LTWA).[3] The LTWA requires that groundwater pumping be managed to avoid significant impacts while at the same time providing a consistent water supply for Los Angeles. The U.S. Geological Survey estimated that the maximum long-term average groundwater pumping volume consistent with goals stated in the LTWA to ensure environmental protection requirements throughout the valley is 70,000 acre-feet per year. LADWP reported in 2006 that its pumping averaged 94,809 acre-feet per year—far above the maximum suggested.[4] Excessive overdrafts from the 1970s into the late 1980s have significantly degraded groundwater-dependent vegetation and some irrigated field pasture.

Notes:

[1] Greg James, "Changing Perspectives on Groundwater Management: The Owens Valley (2002)," Inyo County Water Department website. Last accessed 9/8/12.

[2] Ibid.

[3] See LTWA: Section A. Vegetation Management.

[4] See the Owens Valley Committee Groundwater brochure at: http://www.ovcweb.org/LInks/Referencedesk.html.

Track 10: Benett Kessler
Benett Kessler has reported on LADWP related issues in the Owens Valley for 37 years. She is the owner and operator of Sierra Wave Media.

John Heston (with camera to left) and Benett Kessler (right) reporting on location circa 1970s. Photo courtesy Benett Kessler.

Track 10: Benett Kessler, Sierra Wave Media

Benett Kessler is a broadcast journalist who has been reporting in the Owens Valley for over 37 years. She is the owner and operator of Sierra Wave Media, which includes KRSW FM, cable television Channel 33 serving Inyo and Mono Counties, and Sierrawave.net online.

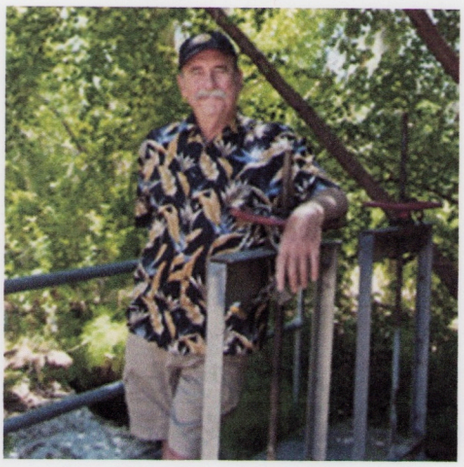
Originally from Ohio, Benett traveled out west when she was 26 years old after graduating from the University of Chicago. By accident, or perhaps fate, she ended up in the Eastern Sierra. There, she met local newsman John Heston and began collaboratively reporting with him in the early 1970s on local broadcast news features with a specific interest in issues related to LADWP operations and policies in the Owens Valley. Their reportage was increasingly focused on concerns related to the intensified groundwater pumping that the department was conducting throughout the valley to fill their recently completed second aqueduct. By 1976, Kessler and Heston had formed the Eastern Sierra News Service and began producing the first daily radio show in the region out of Heston's home in Independence, CA.

The duo began to aggressively report on LADWP activities in Owens Valley and traveled to Los Angeles to conduct investigative reporting and interviews with department administration on Owens Valley operations and related policies, in turn, feeding their news footage to Los Angeles area stations and news outlets in California and beyond. Heston and Kessler's critical news coverage surprised the department and eventually led to outward tensions; in the spring of 1976, a mysterious pipe bomb was planted at Heston's newsroom/office but fortunately did not detonate properly, so no one was hurt. No person or persons were ever arrested or charged with the attempted bombing. Lone Pine KINC station managers cut their popular newscast out of pressure by local LADWP management in early 1977. In response, Heston and Kessler plastered "sharp-tongued" flyers all up and down the Owens Valley and were successful in spreading the news of their untimely firing to regional news

outlets, including the Los Angeles *Times*. Ample support and coverage by the SoCal news media led the local LADWP management to refrain from open intimidation but in turn, created a "dynamic in the community that was tense."

Throughout their reporting, Sierra Wave Media was, and still is, careful not to criticize the department's employees; Kessler in her interview stresses that LADWP workers are "our friends—our neighbors."

Although John Heston is no longer at Sierra Wave Media (he passed away in 2007 at age 78 from a long battle with lung cancer and associated conditions), Keesler remains a vigilant and politically active presence with her continued detailed reporting in the Owens Valley. Listen to her newscasts or read her column online at: www.sierrawave.net.



Track 11: Thaddeus Taylor
Thaddeus Taylor shares an ongoing dispute with LADWP over surface water flows through the 40 Acres community.

The 40 Acres Homeowners Water Association. Photo courtesy Thaddeus Taylor.

Track 11: Thaddeus Taylor, 40 Acres resident

The tiny 40 Acres community made up of a neighborhood of mostly privately owned homes lies twelve miles northwest of Bishop in scenic Round Valley. Jack Wright, a Paiute Indian, first homesteaded the area in the 1890s, filing a claim on a total of eighty acres. He proved up the land with a sheep ranching operation and made necessary improvements to obtain his homestead patent, including the construction of an irrigation ditch off Pine Creek. Eventually, the title of the property was passed to his brother, Jim Wright, also a sheep rancher.

In 1926, LADWP bought out the lower southern forty acres with Wright retaining the northern section—the location of today's 40 Acres community, now subdivided into forty-nine private properties. The entire community is bordered by LADWP land on three sides, with the Bureau of Land Management (BLM) on the west side. The original ditch connects to Pine Creek off the combined properties and continues to serve the community for "domestic supply, agricultural supply, fire protection, ground water re-charge, fresh water replenishment, water recreation, and cold freshwater habitat."[1] Over the years the community has maintained and regulated the ditch themselves.

Up until 2001, LADWP had never interfered with the community's use of the Pine Creek diversion. At that time, an ongoing dispute began when the department destroyed a historic wood control gate and built a steel and concrete gate to direct most of the water into the LADWP ditch system. They also secured the gate with a lock to avoid tampering. Immediately, LADWP reduced flows to 40 Acres by as much as 50 percent.[2] When confronted by the property owners of 40 Acres, the department stated that 40 Acres was not legally entitled to the water, but could not provide any legal claim to the water themselves. Incidentally, when residents looked into LADWP's claim after

organizing as the 40 Acres Homeowners Water Association, they found that LADWP had in fact built their control gate on BLM land that they did not actually own.

Consequently, 40 Acres residents regularly cut the LADWP's lock on the new control gate to divert Pine Creek flows back into their ditch, replacing the lock with one of their own. LADWP responds, in turn, by replacing it with a new lock perpetuating a cycle that has been going for over twenty years.

The 40 Acres Homeowners Water Association eventually sought legal help in the matter "to recognize our pre-1914 appropriative water right and to restore the historic flows through the community."[3] Demands include that LADWP provide them with the historic four cubic per second average daily flow rate that had been recorded by LADWP over a 30-year period from 1976 through 2005.[4] LADWP and the 40 Acres Homeowners Water Association have yet to settle the dispute. Click here to watch the Cutting the LADWP Chain Cutting Ceremony video.

Notes:

[1] Source: 40 Acres Homeowners Water Association website. Last accessed 10/8/12.

[2] Ibid.

[3] Ibid.

[4] Flows not used for irrigation and other purposes in 40 Acres eventually return back into LADWP's Pine Creek ditch system.

Credits:

Archival soundtrack excerpt from *Frontier Horizon* (The Three Mesquiteers series, Republic Pictures, 1939) starring John Wayne, Ray Corrrigan, and Raymond Hatton.

Track 12: Brian Tillemans
LADWP Water Resources Manager, Brian Tillemans discusses the Lower Owens River Project.

Aerial view of the restored Lower Owens River. Photo Don Kelsen | LA Times.

Track 12: Brian Tillemans, LADWP

The $39-million Lower Owens River Project (LORP) begun in 2006 is a 62-mile long river restoration project covering 77,657 acres in the Owens Valley. The project is the largest of its kind ever attempted in the United States. The goal stated for this legally mandated project was to rewater the river channel and the adjacent floodplain that was consequently drained after the city diverted the natural course of the Owens River into the newly constructed Los Angeles Aqueduct in 1913.

The LORP was one of the mitigation projects outlined in the 1991 Inyo-LA Long Term Water Agreement (LTWA) and was mandated in the 1997 Memorandum of Understanding (MOU) between the City of Los Angeles, Inyo County, LADWP, the California Department of Fish and Game, the State Lands Commission, the Sierra Club, and the Owens Valley Committee. Essentially, the LORP is a legally binding compensation meant to offset ecological damage caused by excessive groundwater pumping instigated by LADWP from 1970-1990. After years of political bickering and a drawn out series of lawsuits brought on by various entities, the LORP officially commenced on December 6th, 200, bringing water to the river which had been essentially waterless for 93 years.

"The goal of the LORP is the establishment of a healthy, functioning Lower Owens riverine-riparian ecosystem, and the establishment of healthy, functioning ecosystems in the other physical features of the LORP, for the benefit of biodiversity and Threatened and Endangered Species, while providing for the continuation of sustainable uses including recreation, livestock grazing, agriculture, and other activities." [1]

The 1997 MOU directed LADWP to establish "a permanent base flow of 40 cubic feet per second in the river channel and higher seasonal habitat flows" for two waterfowl and shorebird riparian habitat areas, including the 20,400-acre Blackrock Waterfowl Management Area and the Owens River Delta Habitat Area, plus several off-river lakes and ponds.[2] Water received at the Owens Lake Delta located at the north end of the lake is used for a separate federally mandated air pollution mitigation project managed by LADWP to control dust storms on the dry lakebed. Any

excess water not used at the lake is pumped back into the Los Angeles Aqueduct at a pumping station located at the delta.

Although not without problems, the LORP has been successful in its goal to enhance the fishery, create riparian and marsh habitat, and promote recreational opportunities such as fishing and canoeing. In 2011, the Los Angeles *Times* reported that "there are 4,000 largemouth bass and 2,000 bluegill per mile, and 108 species of birds, 41 of them new to the area."[3] In an attempt to create stands of willow and cottonwood, opposition has been met in the form of the industrious beaver, a non-native species to the area, which enjoys dining on the young seedlings of trees that, in turn, fail to establish. The management overseeing the LORP is working on ways to either control or eliminate the beaver. Grazing cattle present their own set of control issues. Tules (a species of native California bulrushes and other similar vegetation) and other non-natives, such as salt cedar, are also wreaking havoc with the preferred habitat model. An overgrowth of tules or salt cedar can obstruct ideal stream flows and strangle the river if the plants are allowed to over dominate the riparian corridor and channels.

Originally legally described in the 1991 Inyo-LA Long Term Water Agreement, LADWP delayed the start of the LORP restoration twice until an Inyo County Superior Court Judge ordered in 2005 that the city of Los Angeles must commence flows to the river by 2007 or their water exports through the second aqueduct would be stopped altogether. The city was also fined $5000 a day until compliance was met.

A ceremony commemorating the rewatering of the Owens River took place on December 6th, 2006, during which Los Angeles Major Antonio Villaraigosa pushed a button to allow water to return to the dry river's channel. At the gathering, the mayor gave the earnest, if somewhat fumbled, speech heard at the beginning of this track.[4]

Blackrock Spring Controversy

Mary DeDecker, founder of the Bristlecone Chapter of the California Native Plant Society (CNPS) singled out the naturally flowing Little Black Rock Spring as "a prime habitat, a center of life where unusual species flourished and the aesthetic beauty was superb."[5]

Located about twelve miles north of Independence, the original spring flowed at about 8,000 acre feet per year (a.f./yr) and once supported a rich and diverse ecosystem of alkali marsh and meadow, saltbrush scrub, and various mountain species, including Intermountain Bird's Beak (Cordylanthus ramosous). In 1941, the Department of Fish and Game (DFG) established a fish hatchery just south of the Blackrock site and diverted water from the spring for hatchery operations. After servicing the hatchery, the water flows directly into the Los Angeles Aqueduct nearby—essentially at no loss for the utility.

Beginning in the early 1970s, LADWP increased pumping in the Blackrock area to fill its newly constructed second aqueduct. Consequently, the Little Black Rock Spring diminished and eventually stopped flowing entirely, in turn, destroying the fragile ecosystem it had once supported over hundreds of acres to the south and west of the original spring.

To compensate for the loss of spring flow to the hatchery, the LADWP sited two wells nearby to provide replacement water. In addition, LADWP increased pumping from 8,000 a.f./yr to 13,000 a.f./yr.—nearly double the springs natural flow.[6] The increased pumping dropped the water table so low that groundwater dependent alkali meadow began to be quickly replaced by invasive shrub species, leading to desertification.[7] Today, groundwater pumping at Blackrock accounts for 40 to 60 percent of all pumping occurring in the valley.

Bristlecone Chapter CNPS botanist, Daniel Pritchett has been monitoring sites at Blackrock since 1987 as established in the Inyo-LA Long Term Water Agreement (LTWA). His findings show drastic changes between two specific sites, one adequately supported with groundwater and one without—the difference in habitats is staggering. Although LADWP mitigation projects legally mandated through the LTWA compensate for these losses, the two wells serving the fishery are exempted.

Owens Valley Committee (OVC) and other entities, including the Big Pine Tribe, are legally involved in the issue. OVC's lawsuit against the Department of Fish and Game (DFG), which operates the hatcherie,s asks for LADWP to reduce pumping in the Blackrock area back to the natural historic spring flow rate average of 8,000 a.f./yr in an effort to bring back rare meadow habitat, but continue to provide enough water necessary to optimally operate the fish hatchery.[8] OVC and DFG reached a settlement in the lawsuit in December 2011. Besides the Blackrock Hatchery there are two other others in Owens Valley: the historic Mt. Whitney Hatchery (currently closed) near Independence and the Fish Springs Hatchery, just south of Big Pine. Statewide, sports fishing brings in $3 billion in revenue a year.

POI: Blackrock Springs Hatchery

Visitors are welcome to visit the fish hatchery during regular business hours. Exit east onto Coloseum Road aka Blackrock Springs Road. The hatchery is approximately 1 mile north of the exit and 6.5 miles north of Independence, CA.

Latitude: 36.928149°

Longitude: -118.232033°

POI: Lower Owens River Project

There are various LORP recreational areas and wildlife viewing areas located throughout Owens Valley. Click here for the LORP recreational map or visit the Inyo County LORP website to download a higher detailed version.

Notes:

[1] The published stated goal of the 1997 Memorandum of Understanding (MOU) between the City of Los Angeles, Inyo County, LADWP, the California Department of Fish and Game, the State Lands Commission, the Sierra Club, and the Owens Valley Committee.

[2] Inyo County Water Department website (LORP):http://www.inyowater.org/LORP/. Last accessed 9/15/12.

[3] Louis Sahagun, "Tule vegetation infests Lower Owens River," Los Angeles *Times*, July 25, 2011.

[4] Special thanks to NPR affiliate, Carrie Kahn, for providing the Antonio Villaraigosa recording at the opening of this track. Listen to Kahn's original NPR *Morning Addition* broadcast from December 7, 2006, "L.A. Returns Water to the Owens Valley".

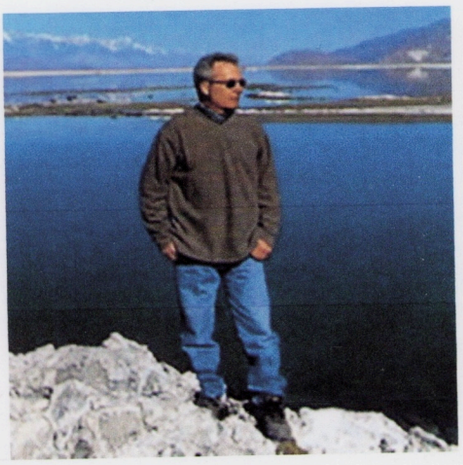
[5] Mary DeDecker, "The Death of a Spring," *History of Water: Eastern Sierra Nevada*, Owens Valley, White-Inyo Mountains. See: OVC Blackrock website page. Note that DeDecker refers to the historic spring as *Little Black Rock Spring*, whereas today the area/spring is called *Blackrock*.

[6] Mike Bodine, "Blackrock settlement means less pumping," The Inyo Register, January 5, 2012.

[7] Generally, the alkali meadow habitat found within the Owens Valley relies on shallow groundwater to survive. In contrast, grasslands, which are not naturally present in Owens Valley, are precipitation dependent. Because Owens Valley is a rain-shadow desert, it receives very little rainfall annually.

[8] In addition, OVC and the Big Pine Tribe want pumping at the Fish Springs Hatchery just outside of Big Pine, CA reduced to historic flow rates. Records show that between 1936 and 1959, the average natural flow for Fish Springs was 16,400 a.f./yr. LADWP increased pumping to 24,000 a.f./yr beginning in 1970. See note 7 for source.

Dust storm event at Owens Lake. Photo courtesy GDUAPCD.



Track 13: Ted Schade
Owens Lake is considered the largest single source of PM-10 in the nation Ted Schade, GBUAPCD Air Pollution Control Officer, explains.

Track 13: Ted Schade, GBUAPCD

Situated between the Sierra Nevada and the White mountains, the Owens Valley is prone to extreme and sustained wind events. Shortly after Owens Lake became dry in 1926, severe alkali dust storms regularly debilitated the region as fine particulate matter covering the lakebed's surface became airborne and transient. Although many desert regions of the western U.S. have an abundance of dry lakes, most are five to ten thousands of years old and have stabilized over time. Wind and other natural processes blew fine particulate off these ancient lakebeds ages ago leaving only the heavier matter behind.

Desiccated less than 100 years old, the Owens lakebed has not had the luxury of geological time to stabilize. Before LADWP's current dust control effort, a fine, talcum-like dust covered much of the dry playa. The dust, known to contain a caustic mix of arsenic, cadmium, nickel, sulfates, salts, and other contaminants, has been shown to cause adverse health effects if inhaled on a regular basis. [1] It not uncommon for those directly exposed to the metallic tasting dust to suffer eye irritations, nosebleeds, allergic reactions, and other compromised respiratory-related conditions. "Sensitive populations," including children and the elderly or those with asthma, bronchitis, and heart and lung disease, are especially at risk. Poor visibility resulting from a severe dust storm can cause driving hazards, car wrecks, and fatalities. In addition, extreme dust events impact wildlife and the general overall ecology of the region.

The residents throughout Owens Valley, especially those in communities near the lakebed including Lone Pine, Keeler, Cartago, and Olancha, are especially affected by these dust events. Up until the dust control mitigation efforts began in 2001, residents of these communities simply put up with the dust storms on a regular basis. Still, dust storms were not simply localized—scientific studies showed that Owens Lake dust could be transported vast distances—as far as San Bernardino to the south or even above Mt. Whitney into the San Joaquin Valley to the west.[2] Dust originating from

Owens Lake has in the past caused air pollution violations in Bridgeport, which lies fifty miles to the south and regularly suspended military operations at the China Lake Naval Weapons Center (ninety miles south), resulting in millions of dollars in losses. A single cancelled test flight could cost the Navy up to $50,000 per test.[3] Indeed, the Navy's research into the Owens Lake problem drove the demand to address and resolve the air pollution it was producing for the entire region.

National air pollution standards were set by 1970 under the federal Clean Air Act—which specifies what air pollutants are regulated by the government and the levels of air pollution we are allowed to breath. Consequent act revisions set the allowable air pollution standard for PM-10 (particulate matter ten microns in diameter or less) that has the ability, due to its microscopic size—about one-seventh the diameter of a human hair—to lodge into the lower regions of the respiratory tract and cause possible adverse health effects such as cancer, a variety of lung disorders including asthma, and depressed immunity function.[4]

Air monitoring of Owens Lake and surrounding areas began in the 1980s with the formation of the Great Basin Unified Air Pollution Control District (GBUAPCD), a California state regional government agency serving the unified counties of Alpine, Mono, and Inyo Counties. GBUAPCD recorded PM-10 levels 100 times over allowable federal standard and it was quickly determined that Owens Lake was the largest single source of PM-10 in the nation.[5] Before current dust control mitigation measures were in place, it had been estimated that the lakebed was producing about 80,000 tons of dust per year. GBUAPCD would frequently receive twenty to thirty federal exceedances of the federal standard for PM-10 air pollution allowed per year, all at abnormally high levels.[6]

With the passing of California Health and Safety Code 42316, a series of negotiations with the Great Basin Unified Air Pollution Control District (GBUAPCD) resulted in the late 1990s. The City of Los Angeles and GBUAPCD entered into a Memorandum of Agreement (MOA) in July 1998, requiring that dust control mitigation measures designed to meet state and federal air quality standards were in place by the mid-2000s—thus initiating the largest dust control project of its kind ever undertaken in North America.

It is estimated that dust pollution originating from Owens Lake impacts about 40,000 permanent residents between Bishop and Bridgeport. Regional health officials assume that chronic dust exposure is impacting the health of some of the population. Indeed, the 2012 Community Health Needs Assessment Report by the Southern Inyo Healthcare District in Lone Pine stated that 91.5 percent of cancer deaths in Inyo County resulted from lung cancer—compared to the national average of 52.6 percent.[7] Understandably, the report calls for continued aggressive air quality monitoring to continue within the region.

Large dust events continue to occur throughout the Owens Valley, albeit less severe and frequent today. For example, on May 25th, 2012, a stage two health advisory event was advised for the residents of Lone Pine with a stage one for those in Keeler. That afternoon, air pollution monitoring devices measured PM10 in the town of Lone Pine at 776 ug/m3. At the Lone Pine tribal area just south of town, measurements nearly doubled to 1362 ug/m3.[8] This suggests that all-too-familiar

dust storms will continue to burden the region, indicating the need to supplement and maintain LADWP's dust control mitigation program at Owens Lake well into the future.
Check out the GBUAPCD dust cam at: www.gbuapcd.org/dustcam.htm

---

Notes:

[1] Sarah Kittle, "Survey of Reported Health Effects of Owens Lake Particulate Matter," GBUACD website, January 14, 2000.

[2] Kevin Roderick, "In Keeler, It's Breathe If You Dare," Los Angeles *Times*, April 2, 1989.

[3] Jeffrery Anderson, "The Eternal Dustbowl," LA Weekly, March 23, 2006.

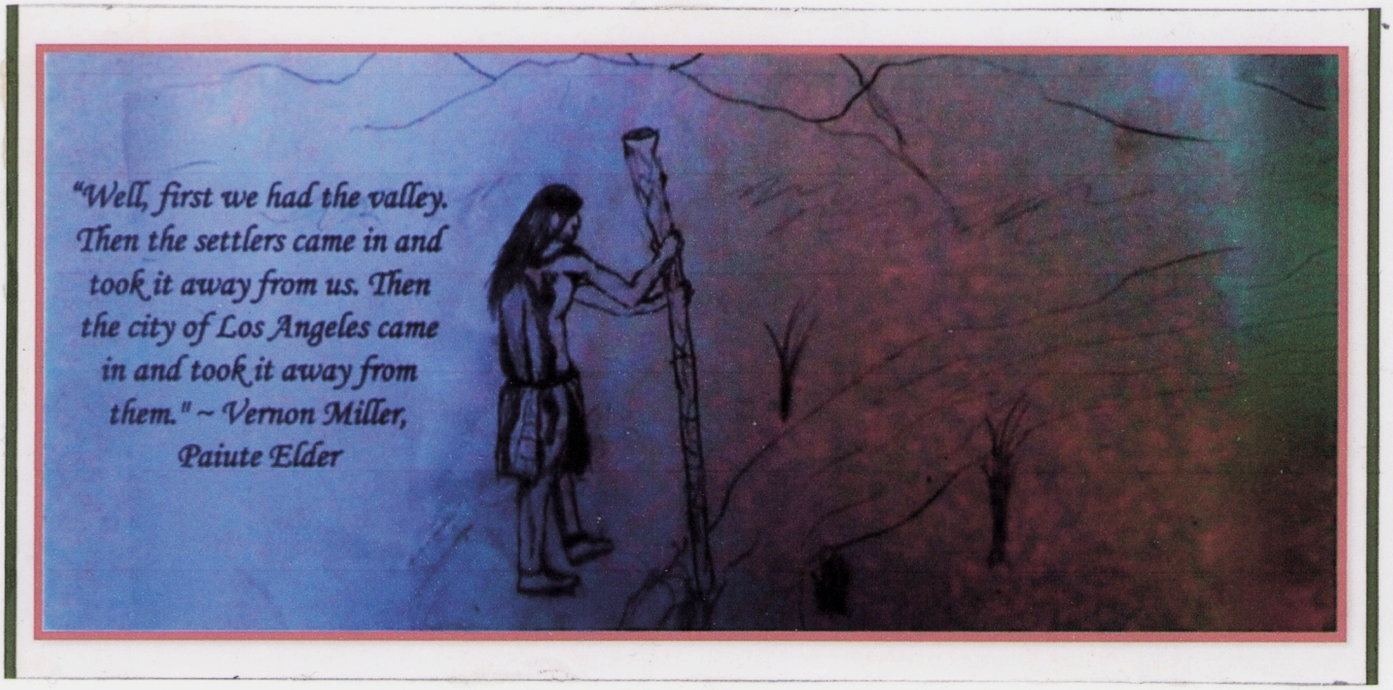
[4] U.S. Environmental Protection Agency website: http://www.epa.gov/airtrends/aqtrnd95/pm10.html. Last accessed 9/22/12.

[5] Interview with Ted Schade, GBUAPCD Air Pollution Control Officer on 12/20/11.

[6] Ibid.

[7] MJ Phillips & Associates, Southern Inyo Healthcare District, Lone Pine, CA, "2012 Community Health Needs Assessment Report," Southern Inyo Healthcare District, Lone Pine, CA, May 2012, p. 6.

[8] GBUAPCD website Health Advisory warning cited May 25, 2012 at http://www.gbuapcd.org/. Stage 2 air pollution health advisories are issued when hourly particulate pollution levels exceed 800 ug/m3. During a stage 2 health advisory it is recommended that everyone refrain from strenuous outdoor activities in the impacted area and stay indoors.



A flock of American avocets at Owens Lake. Photo Gail Klett.

Track 14: Mike Prather
Environmental activist Mike Prather describes the return of massive migratory bird populations on the newly rewatered Owens Lake.

Track 14: Mike Prather, environmental activist

Mike Prather is an environmental activist and conservationist who has advocated for the rewatering of Owens Lake and the Lower Owens River for decades. He and his wife originally moved to Inyo County in 1972 to teach in a one-room schoolhouse located in Death Valley. Over the years, Prather helped form the Owens Valley Committee (OVC), also serving as a past president. He is a member of the Eastern Sierra Audubon Society (also a past president) and a member of the Sierra Club Toiyabe Chapter.

Owens Lake became dry by 1926 due to the diversion of the Owens River into the Los Angeles Aqueduct in 1913. Originally, the river had naturally terminated at the north end of the lake just south of the town of Lone Pine. Before the diversion, this shallow brackish lake covered 100 square miles. After the diversion, a much smaller brine pool remained, varying in size year-to-year.

Historically, Owens Lake was one of the most important stopover sites in the western United States for waterfowl and shorebirds migrating through the Pacific Flyway. Geologic records show that massive populations of migrating birds have passed through the area for at least 800,000 years.[1] The following account in September 1917 by visiting UC Berkeley ornithologist, Joseph Grinnell, describes the abundance of wildlife still present at the lake even though it had been denied water inflow for four years:

> *"Great numbers of water birds are in sight along the lake shore—avocets, phalaropes, ducks. Large flocks of shorebirds in flight over the water in the distance, wheeling about, show in mass, now silvery now dark, against the gray-blue of the water. There must be literally thousands of birds within sight of this one spot. En route around the south end of Owens Lake to Olancha [I] saw water birds almost continuously."* [2]

In the mid-1980s, Prather and other Audubon members heard that LADWP was planning on sealing several artesian wells located around Owens shoreline, where the Audubon group had been

counting hundreds, if not thousands, of birds attracted to the limited water emanating from the sources. With their data, they were able to convince the Department of Fish and Game that wildlife would be harmed if the wells were sealed, effectively jump-starting conservation efforts on the, then, dry lakebed. By the late 1990s, a series of negotiations with the Great Basin Unified Air Pollution Control District (GBUAPCD) forced LADWP to initiate a massive dust control project in order to meet federal air quality standards by the mid-2000s.

In 2001, LADWP began shallow flooding of the lake as one of the mandated dust-control measures the department was legally bound to commence. Today, LADWP spreads up to 95,000 acre-feet of water annually across specific areas of the lakebed. Thirty-six square-miles of shallow flooding has created marshland and shallow lake habitat, which attracts over 241 species of birds today, including some that are federally threatened and endangered. Waterfowl and shorebird species sighted in the Owens Lake area include western and least sandpipers, black-bellied and snowy plovers, long-billed curlews, California gulls, American avocets, long-billed curlews, eared grebes, ducks, geese, and many others.[3] The presence of protected species does present a dilemma for LADWP to continue to provide viable habitat well into the future for the birds and other wildlife now dependent on these newly resurrected ecologies.

Notes:

[1] "Owens Lake," Owens Valley Committee website. Last accessed 9/16/12.
http://www.ovcweb.org/OwensValley/OwensLake.html

[2] "Birds of Owens Lake," Owens Valley Committee website:
http://www.ovcweb.org/owensvalley/OwensLakebirdlist.html

[3] Ibid.

Track 15: Sam Wasson
Sam Wasson, a retired LADWP employee and long-time resident of Keeler, recounts an Owens Lake dust storm event.

Sign reads, "This beautiful setting provided by LA Water Dept," Keeler, CA. Photo Kim Stringfellow.

Track 15: Sam Wasson, retired LADWP employee

Keeler is a desolate, dusty community positioned at the east shore of the Owens Lake. From the looks of the town it is apparent that it has seen better days. Boarded up, once-elegant wind-worn Victorian buildings stand among a scattering of more recently built homes and trailers, littered with abandoned vehicles and other detritus. Keeler is a reminder of a booming extraction economy that went bust long ago, a typical scene found in many desolate arid regions of the American West. It is interesting that Keeler managed to hang on as long as it has.

Keeler rose to regional prominence during the 1860s due to its proximity to the silver mines in production at Cerro Gordo. The town, originally called Hawley, was the site of the Owens Lake Mining and Milling Company, which processed and smelted ore from the mines delivered via aerial tram from 9,000 feet above within the Inyo Mountains after the 1872 earthquake destroyed the existing pier at Swansea a few miles away. Hawley was renamed Keeler after Julius M. Keeler, who had planned and designed the company town. A pier was constructed which provided transport of ore and ingots across the lake to the west shore town of Cartago via the steamship "Bessie Brady," which cut down shipping from three days by land to three hours by barge until it was destroyed in a fire in 1882. Ingots were then shipped directly to Los Angeles. The Carson and Colorado Railway built a narrow gauge railway for transport of materials and goods terminating at Keeler in 1883 that connected the area with others in the region. During this period, Keeler claimed a resident population of up to 5,000 residents. Most historians agree that Cerro Gordo's extraction economy and the lucrative trade it produced provided the economic catalyst that propelled Los Angeles to regional prominence during the mid-19th century.

By the late 1880s, the price of silver had plummeted, busting Keeler with it. A series of smaller, short-lived extraction booms for zinc, lead, and limestone followed sporadically over the years until mining finally ceased by the 1950s. Various crude soda mining operations, including the Natural Soda

Products Company (1912-1927), employed Keeler residents for nearly fifty years. Owners of the soda plant in operation during the 1930s sued LADWP and won a settlement of $154,000 after the department had flooded and destroyed the plant positioned within the dry lake with runoff after an exceptionally wet winter season.

Today, the sign on State Route 138 lists a current population of around fifty residents, some of whom work for LADWP's dust control mitigation program at the lakebed. The main LADWP facility for the project is located just south of town. Keeler has been prominently featured in past news media because, historically, it has received the brunt of the alkali dust storms emanating off of the desiccated Owens lakebed—which certainly has furthered the town's demise. As Mike Prather shares in his track, at one point a LADWP official publicly stated, "This dust project is going to cost so much.... We can just give everyone in Keeler a million dollars.... They can just move. They can just go away." The official failed to consider that the dust wasn't just affecting the tiny town of Keeler, but instead was affecting up to 40,000 people throughout the region.

POI: Owens Lake Dust Mitigation Program Marker

A historical marker dedicated by LADWP on November 17, 2001 is located on State Route 136 just north of Keeler overlooking Owens Lake. The town of Keeler is 1.5 miles south of the marker.

Latitude: 36.505864°

Longitude: -118.888578°

Paying for the river project

LA Times 4-5-2015

FRED EATON certainly knew his business when he went poking around the Owens Valley in the early part of the last century, quietly purchasing farms and ranches for the water rights that went with them. Had the self-taught engineer and former Los Angeles mayor made it clear to the landowners that he was planning an aqueduct to a distant city, they might have refused to sell — or at least would have jacked up their prices to reflect the value to L.A. of their water.

By contrast, as the city's attention now returns to local water supplies and natural resources — and to the restoration of the L.A. River — landowners are not making the same mistake. Those with property on the riverbanks are setting prices that reflect the city's desire to acquire industrial land and turn it into parkland. The chance to quietly snatch riverfront land at bargain prices has passed.

Among the costliest parcels is Union Pacific's so-called Piggyback Yard, more than 100 acres in Lincoln Heights that would include the largest portion of restored ecosystem and link it with adjacent neighborhoods and the Los Angeles State Historic Park.

The U.S. Army Corps of Engineers last year agreed to include this property in the larger-scale plan known as Alternative 20. But it is now estimated that the restoration will cost about $1.3 billion, and the Army Corps wants assurance that the city is good for most of it.

L.A. does not have an extra $1.3 billion in cash sitting in a bank account, and if it did, there would be many competing demands for it. River revitalization would not necessarily be at the top of everyone's list.

But there are two things to keep in mind. First, the city's share would be spent over several decades and would be raised using a variety of tools, including a possible special financing district that directs a portion of river-adjacent property taxes to pay off land acquisition bonds. L.A. is also in the running for a portion of last year's Proposition 1 bonds.

And second, the city is not expected to pay the full $1.3 billion. The Army Corps signed on to the project in the first place because it so perfectly fits the Obama administration's direction to all federal agencies to prioritize ecosystem restoration in urban areas and connect urban youths with the outdoors. The federal government should put more of its money where its marching orders are and pick up half the tab for the L.A. Los Angeles River project.

Track 16: Bill VanWagoner
LADWP's Bill VanWagoner explains the department's dust control mitigation strategies implemented on Owens Lake.

Shallow flooding method used for dust mitigation control on Owens Lake. Photo: Kim Stringfellow.

Track 16: Bill VanWagoner, LADWP

Owens Lake was dry by 1926 due to the diversion of the Owens River into the Los Angeles Aqueduct in 1913. Shortly thereafter, severe alkali dust storms arising from the 100 square-mile dry lakebed began to plague the region—as much as four million tons of dust per year has been reported to have traveled as far as San Bernardino and other southern locations. [1]

By the 1980s, national air pollution standards were set by the EPA for windblown particulate matter ten microns in diameter or less (PM-10) usually associated with dust, smoke, and haze resulting from natural fires, motor vehicles, industry, or agriculture practices. Owens Lake is considered to be the largest single source of PM-10 in the nation.[2]

With the passing of California Health and Safety Code 42316, a series of negotiations with the Great Basin Unified Air Pollution Control District (GBUAPCD) resulted in late 1990s. The City of Los Angeles and GBUAPCD entered into a Memorandum of Agreement (MOA) in July 1998, requiring that dust control mitigation measures designed to meet state and federal air quality standards be in place by the mid-2000s. It was agreed that LADWP would remediate 40 square-miles of the dry Owens lakebed—initiating the largest dust control project of its kind in North America. Although the MOA did not require LADWP to rewater Owens Lake, it did stipulate that the department needed to begin trials of three approved dust control remediation strategies: shallow flooding, managed vegetation, and gravel or other approved "reasonable measures."

Shallow flooding with bubblers or sprinkler systems was the first dust control method implemented when testing on the lakebed began in 2001. A positive by-product of the flooding was the creation of marsh and shallow lake habitat for birds and other wildlife. Although flooding is an obvious choice for dust abatement, it is costly and uses a lot of water—LADWP claims that up to 95,000 acre-feet of water per year is currently used in Owens Lake remediation efforts, which it states is equal to the entire annual water supply for the city of San Francisco.[3] Of course, returning water

to the lakebed inherently goes against LADWP's ultimate mission—to deliver water and power from the Eastern Sierra to the city of Los Angeles.

Managed vegetation involving the planting of native grasses and other rhizomes to control dust emissions is the second control method. This technique has been successful at some locations but only works where soil and drainage conditions are optimum. In contrast to shallow flooding, this method uses a third of the water to implement.

The third method involves the spreading of large swaths of gravel four inches thick on a type of industrial fabric. This particular approach has been difficult to gain approval for use, as it fails to provide any viable habitat for wildlife. Gravel is also terribly expensive—it costs $30 million to apply one square-mile onto the lakebed and presents its own set of problems: heavy machinery used to move the gravel has sunk into the unstable lakebed in the past. [4] Still, gravel has been used on 1.4 square-miles of the lakebed to date.

One of the mitigation methods proposed by LADWP that failed miserably was a "moat & row" plan which attempted to create staggered "speed bumps" of tilled dirt with the purpose to slow wind erosion leading to dust storms. The California State Lands Commission, which owns the entire lakebed, ultimately ended up turning down this proposal.

VanWagoner stated in his interview that the department has spent up to 1.2 billion dollars on the Owens Lake remediation project, which includes construction, operation, and maintenance of the mitigation measures as well as the cost of the city's replacement water that must be purchased from other sources such as the Metropolitan Water District.

In recent news, an attorney for LADWP announced that it is "done" with furthering its dust mitigation efforts on Owens Lake.[5] A news release dated on February 23rd, 2012 stated that the department plans to fulfill and maintain its current remediation obligations, but will basically fight any additional future mitigation measures brought to court by GBUAPCD or other entities. The release also stated its concern over how "less water-intensive control measures approved has proved unnecessarily difficult, if not impossible," suggesting that LADWP will continue to fight aggressively to provide far less water to this project in the future.

Notes:

[1] Molly Peterson, "Owens Lake dust kicks up questions about DWP's eastern Sierra efforts," 89.3 KPCC: Southern California Radio, December 12, 2010.

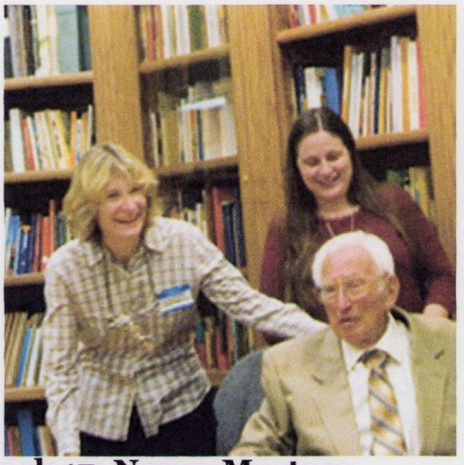
[2] Great Basin Unified Air Pollution Control District website:http://www.gbuapcd.org/Information/OwensLakeParticulateMatterHealthEffects.htm. Last accessed on 9/17/12.

[3] Interview with William VanWagoner, Manager of the Owens Lake Dust Mitigation Program on 8/17/12.

[4] Molly Peterson, "LADWP says Owens Lake's 'Owengeti' could suggest new modes for dust control," 89.3 KPCC: Southern California Radio, June 15, 2012.

[4] Mike Gervais, "DWP tells state board it's 'done' at Owens Lake," The Inyo Register, June 25, 2012.

The demolished historic hair salon building at the far right of the image. Circa 1930s.



Track 17: Nancy Masters
Citizen activist Nancy Masters elucidates on the role of community activism and the future of the Owens Valley.

Track 17: Nancy Masters, community activist

Nancy Masters has lived in Owens Valley for most of her life. Her father, former Inyo County Board Supervisor, Keith Bright was one of the negotiators and signators for the 1991 Inyo-LA Long-Term Water Agreement (LTWA). As a citizen activist and historical preservationist, Masters personifies the importance of local citizen engagement to conserve and protect the historical memory of the Owens Valley.

When the city of Los Angeles purchased Owens Valley land and water rights for their aqueduct project in the earlier part of the twentieth century, it acquired, along with farms and ranches, much of existing home sites and commercial properties in the valley towns of Cartago, Olancha, Lone Pine, Independence, Big Pine, and Bishop. This amassing of real estate led to a drastic drop in county tax revenue for the county. The city began to divest of some of these properties beginning in the 1930s with preference to local residents and business owners in a "spirit of good will and cooperation," but later reneged and sold properties to the highest bidder in a sealed bidding competition. When valley residents and business owners protested the policy in 1945, Los Angeles simply raised their rents.[1]

Legislation was eventually passed that required the city to give its leaseholders, the majority who were local, first option to buy properties the city had put up for sale. It also provided some rent control provisions. The city responded by stopping all sales in the valley altogether in 1945. Divestment of valley properties owned by the city occurred sporadically through the 1960/70s with periodic sales continuing through to today. The city continues to lease commercial buildings and residential properties with mostly five-year leases, which effectively discourages most of its lessees from making substantial or lasting improvements to their homes or businesses. Land for commercial

development continues to be hard to come by: Bishop's K Mart, the only Big Box chain in the valley besides the Vons supermarket, took eleven years of negotiations before it could be built.

For the most part, LADWP's property ownership policies have kept any viable economic resurgence from resurfacing within the Owens Valley today. Although many residents credit LADWP for keeping the region's towns free of sprawl, others feel that the utility simply treats them as a virtual water colony. Benett Kessler, of Sierra Wave News states that LADWP has an active policy of opposing growth throughout the valley to protect their water supply investment. Indeed, the towns feel seemingly quaint and look picturesque as one drives through as a tourist, but on closer inspection the shabbiness of neglect surfaces. Many local residents suspect that LADWP curbs economic development and growth within the valley by sustaining blight in area towns: properties the city owns are minimally maintained and often fall into disrepair to be later demolished. Masters has called LADWP's property management policies a "pattern of systematic destruction of Owens Valley."[2]

LADWP's culture of indifference was evident on April 26th, 2012 with the early morning demolishment of a historic barbershop in Independence used most recently as a hair salon. The building had been documented and recorded by Inyo County as a historic structure, protected under provisions of the LTWA. Inyo County building officials stated that LADWP had applied for a demolition permit, but it had not been approved on the date when the building was torn down while people slept.

Masters speculates that the early morning demolition date and time were selected to avoid any interaction with local citizens who were opposed to the demolition of the building. Masters commented in an article published on Sierra Wave News that "the Independence Civic Club had made a proposal with volunteers and money to restore the building [but] DWP never got back to us."[3]

Around the time of the building's destruction, the group had been in the process of mapping historic buildings in Independence including the hair salon. A LADWP representative later responded to a Sierra Wave News' inquiry into the matter, stating that an outside consultant determined the building structurally unsafe and not historic after all, hence the demolition. To Los Angeles' credit, a few Owens Valley properties currently owned by the city have been leased for public and county use, including Bishop's new airport.

Notes:

[1] William Kahrl, *Water and Power: The Conflict over Los Angeles Water Supply in the Owens Valley*, (Berkeley: University of California Press, 1982), p. 380.

[2] Benett Kessler, "Little Shop of Sadness," *Sierra Wave Media*, April 26, 2012.

[3] Ibid. Kessler.

Thumbnail photo: Nancy is pictured at the left with her father, Keith Bright, and her sister.

Los Angeles Aqueduct Intake, circa 1913. Photo courtesy Inyo County Eastern California Museum.

There It Is—Take It! was conceived, researched, and developed by Kim Stringfellow. Audio production and sound design by Tim Halbur.

Professor John Walton, author of *Western Times and Water Wars: State, Culture, and Rebellion in California,* acted as humanities consultant for this project.

The Friends of the Eastern California Museum acted as fiscal sponsor and partner for this project. Special thanks goes to Jon Klusmire, Roberta Harlan, and Richard Potashin of the ECM for assisting with research and their support of this project.

We would like to thank the following individuals for their involvement and assistance in developing this project: Alan Bacock, Fred Barker, Lee Baron, Mark Bagley, Kevin Carunchio, Greg James, William Kahrl, Benett Kessler, Dr. Sally Manning, Nancy Masters, Stan Matlick, Daris Moxley, Chris Plakos, Jonathan Parfrey, Daniel Prichett, Mike Prather, Ted Schade, Thaddeus Taylor, Brian Tillemans, Bill VanWagoner, Sam Wasson, Harry Williams, and Sandy Jefferson Young. We would also like to thank the following: Sierra Wave Media, Inyo County, The Eastern California Museum, Owens Valley Committee, and finally the Los Angeles Department of Water and Power for supporting this project through their input, consultation, and willingness to contribute to the development of this program.

Kim Stringfellow graciously thanks everyone at the California Council for the Humanities for their continued support of projects of this kind.

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Archival Audio:

- Ernest Kinney recorded oral history on Track 3 recorded and interviewed by Richard Potashin for the Eastern California Museum Oral History Program (ECM #69). Recording courtesy Inyo County Eastern California Museum.
- City Of Destiny soundtrack excerpt produced by Standard Oil in 1947. Courtesy Archive.org.
- Frontier Horizon (The Three Mesquiteers series, Republic Pictures, 1939) starring John Wayne, Ray Corrrigan, and Raymond Hatton. Courtesy Archive.org.
- Antonio Villaraigosa LORP celebration speech courtesy NPR affiliate, Carrie Kahn. Listen to Kahn's original NPR *Morning Addition* broadcast from December 7, 2006; "L.A. Returns Water to the Owens Valley".

CAL HUMANITIES Community Stories

This project was made possible with support from Cal Humanities, an independent non-profit state partner of the National Endowment for the Humanities. For more information, visit www.calhum.org. Any views, findings, conclusions, or recommendations expressed in *There It Is—Take It!* do not necessarily represent those of the California Council for the Humanities or the National Endowment for the Humanities.

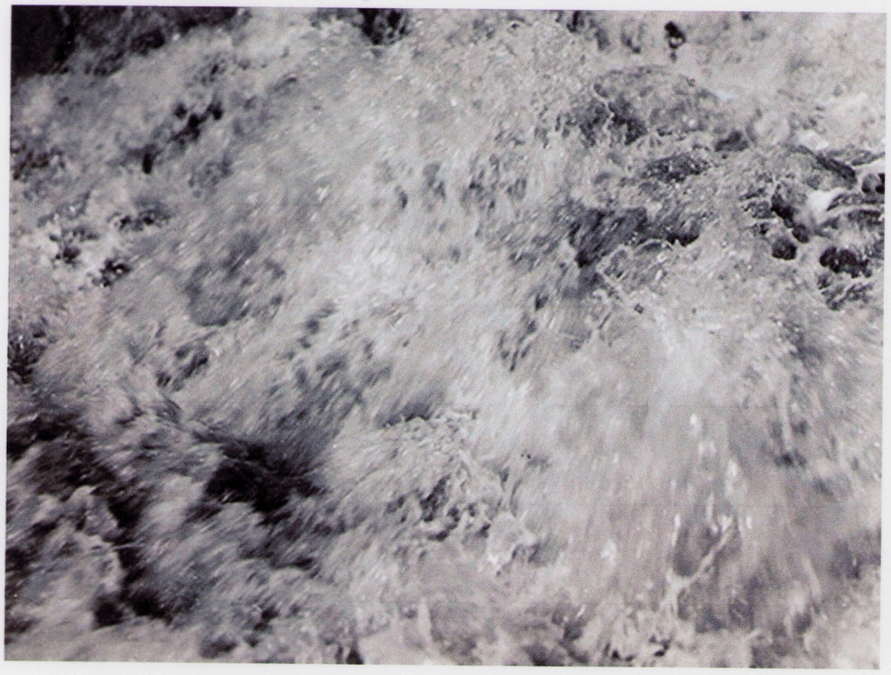

Photo courtesy of the Water Resources Center Archives, Berkeley, CA.

October 24, 2012

Forget Chinatown, Get the Real Story of California's Most Famous Water War

Kim Stringfellow

There It Is—Take It! is a self-guided car audio tour through Owens Valley, California along U.S. Route 395 examining the controversial social, political, and environmental history of the Los Angeles Aqueduct system.

When asked about my newest audio tour project, *There It Is—Take It!*, most people immediately bring up Roman Polanski's 1974 film noir classic, *Chinatown*. Beyond the fact that *Chinatown* is firmly now rooted in cultural lore of Southern California, the film continues to be ingrained in our collective consciousness as the primary narrative of how the Los Angeles Aqueduct came to be.

Understandably this phenomena resulted from Polanski's brilliant direction, superb acting by Jack Nicholson, Faye Dunaway, and John Huston but, most importantly, it is due to Robert Towne's cleverly conceived screenplay that is ever so loosely based on real events that occurred some 230 miles northeast in scenic Owens Valley. This narrowly defined arid valley about seventy-five miles long laying adjacent to the majestic Eastern Sierra has historically provided, through the surface flow diversions and sustained groundwater pumping of nearly 100 years, up to 75 percent of Los Angeles' annual water supply. Even though Towne's script occurs ten or so years after the actual events took place, the movie continues to be taken as a stand-in for the real story due to the film's lasting success and continued critical acclaim.

Chinatown

As historian, John Walton (*Western Times and Water Wars*) explains, "For Los Angeles and national audiences who knew little of the historical background, *Chinatown*, became the LA water story—the political intrigue that made urbanization possible. With its apt power-politics imagery, the film became urban history in the effective realm of popular culture, though its story was largely false."

Interestingly, *Chinatown* wasn't the first film to mine the Owens Valley saga for its screenplay. Quite a few early Westerns—many filmed against the actual Alabama Hills landscape where the true story played out—wove a greatly fictionalized "stolen water" Owens Valley backstory into their narratives including, "Frontier Horizon," part of the early Three Mesquiteers film series starring a young, upcoming John Wayne.

The real and continuing story of the Los Angeles Aqueduct is perhaps even more fascinating than earlier fictionalized accounts. For instance, how many of you are aware that a group of nearly 700 hundred Owens Valley citizens—deeply frustrated by ten years of covert and deceptive land and water rights purchases and other shady dealings by Los Angeles' operatives overrunning the valley—for four days, beginning on November 16th, 1924, took over and *occupied,* without incident, an aqueduct control gate at the Alabama Gates just north of Lone Pine? The "occupiers" drained the entire flow of the aqueduct into the dry Owens Lake riverbed in a great act of non-violent civil disobedience. Or that in 2005, the aqueduct's "second barrel" water supply was nearly entirely shut down by a Superior Court Inyo County judge unless the city of Los Angeles commenced a legally mandated mitigation restoration project on the Lower Owens River by 2007? It is somewhat surprising that no one has made feature film dramatizing the early resistance movement, which led to a string of dynamiting sabotage incidents along the aqueduct by Owens Valley citizenry.

Alabama Gates Occupation, November 16-20, 1924. | Image: Courtesy Inyo County Eastern California Museum.

These are just a few of the fascinating events occurring over the last 100 years of this contentious and divisive history of California's most famous "Water War" illuminated in *There It Is—Take It!* Designed as a self-guided car audio tour through Owens Valley, California along U.S. Route 395, the audio tour examines the controversial social, political, and environmental history of the Los Angeles Aqueduct system. The tour illuminates various impacts this divisive water conveyance infrastructure has created within the Owens Valley over the last one hundred years of the aqueduct's existence. Stories of the aqueduct are told from multiple perspectives and viewpoints, through the voices of historians, biologists, activists, native speakers, environmentalists, litigators, LADWP employees, and residents from both Los Angeles and the Owens Valley.

Available as a free, 90-minute long downloadable audio program, *There It Is—Take It!* seeks to shed light on the mutual past, present, and possible future of Los Angeles and Owens Valley—centered around its complicated and intertwined water history. The project illuminates the historic physical source of drinking water for the Los Angeles municipality, while simultaneously revealing the complex relationship these two seemingly polar regions of California share through an innovative aural program incorporating interviews, field recordings, music, and archival audio that educates the listener while experiencing scenic Owens Valley landscape firsthand along U.S. Route 395.

Next year marks the 100th anniversary of the construction of the original aqueduct designed by William Mulholland, the Department of Water and Power's (LADWP) first superintendent and head engineer. Much of the backstory of how Los Angeles obtained the necessary land and water rights that enabled the city to construct its aqueduct has been presented in numerous documentary films on the subject. Less is known of the ongoing political and legal struggles of contemporary Owens Valley citizenry, environmental groups, governmental groups, and concerned individuals who have been working tirelessly to keep Los Angeles' water export activities in check in order to repair past and avoid future ecological damage affecting both humans and the surrounding environment. On the contrary, how many know how the city's colonization of the valley has promoted a mostly undeveloped open landscape lending great appeal for those who want to get away from it all including myself?

Photo: Kim Stringfellow

The aim of the audio tour is not only to provide a creative platform for Owens Valley concerned citizens to voice their opinions, but to help others outside the area (especially Los Angelenos) to better recognize current issues at stake and provide community awareness that may lead to more active participation in water conservation programs and education. If nothing else, it is my hope is that the tour provides an incentive to travel to the region as a sort of water-seeking pilgrimage, which I feel is every Los Angelino's inherent responsibility. The tour, as well, provides a different and creative way to experience landscape firsthand through one of California's most scenic and beautiful byways.

So forget *Chinatown* and get the real story of the Los Angeles infamous water grab and drive the tour!

Top Photo: Photo by Kim Stringfellow.

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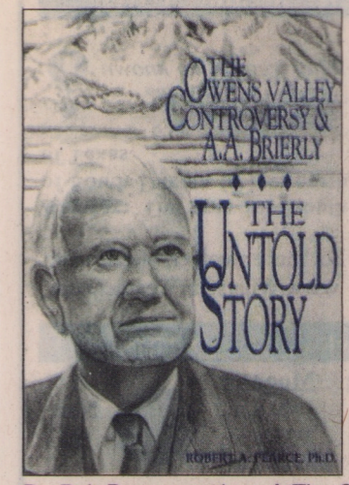
VOL. 143, ISSUE 84 THURSDAY



Dr. Rob Pearce, author of "The Owens Valley Controversy and A.A. Brierly: The Untold Story," chronicles his grandfather's experiences as a rancher during the era in which Los Angeles was purchasing local property and water rights. Pearce writes that, contrary to popular belief and according to Brierly, the Owens Valley, far from a verdant agricultural Eden, was a tough place to make a living from the land, and "many, many" of the county's ranchers and farmers "were barely making a living. They had small places and were just getting by." Shown at right is Brierly in 1950 on a horse-drawn mowing machine in the hay meadows on Warm Springs Road, now part of the Giacomini Ranch.

Photos courtesy Rob Pearce, Ph.D

The 'untold story' of Inyo's water wars

Local author to share front-line insights of his grandfather, A.A. Brierly

7-23-2013

By Jon Klusmire
Special to The Inyo Register

Those looking for a villain during the time of the Owens Valley "water wars" should cast an eye toward the Watterson brothers, who used their Inyo County Bank to exert a heavy-handed influence on the residents of the county while they themselves were involved in unethical banking and financial dealings. The bank's collapse in 1927 did more damage to the county's economy and its residents than the Los Angeles Department of Water and Power.

The lingering perception that Los Angeles "stole" land and water from Owens Valley farmers and ranchers is, for the most part, incorrect, since the city paid a fair price, if not more, for all the land it purchased in the valley in the 1920s.

The Owens Valley, far from a verdant agricultural Eden, was a tough place to make a living from the land, and "many, many" of the county's ranchers and farmers "were barely making a living. They had small places and were just getting by."

Those are three significant points that challenge the conventional wisdom about the history of the Owens Valley and LADWP. Those first-hand observations are put forth in the book, "The Owens Valley Controversy and A.A. Brierly: The Untold Story." Brierly was a well-known Bishop resident and public official who was on the front lines of the "water wars" of the 1920s, so much so that he carried a pistol. That was because he was among the many ranchers and farmers who sold both water rights and land to LADWP in that tumultuous era.

Rob Pearce, Ph.D., Brierly's grandson, completed "Untold Stories" because, as he notes in the introduction, "I have become increasingly aware that these old timers told a much different story of the events around the turn of the century and what the region's environment was like, than that which is currently being told by many individuals regarding DWP and the Owens Valley."

Pearce will give a presentation and sign copies of "The Untold Story," on Saturday, July 20, from 1-4 p.m. at the Eastern California Museum, 155 N. Grant St. in Independence. Light refreshments will be served.

The book puts a completely different perspective on what many have come to accept as the history of the Owens Valley and the LADWP in the 1920s. As Abraham Hoffman, author of "Vision or Villainy" wrote of the book, "(People) whose minds are made up and don't want to be confused with alternative views of their 'history' would not like Pearce's book, but more open-minded people would find its message worth pondering. It's a small book that may be read in an evening, but it has a big message that comes from someone whose family credentials in Owens Valley cannot be denied."

The book consists of a summary of the Owens Valley situation through the 1920s as told to Pearce by W.A. "Gus" Cashbaugh and A.A. Brierly. Then, there is an extensive, oral interview of Brierly, conducted by a graduate student in 1976.

Pearce adds his own perceptions and concerns about the valley in the introduction and a separate chapter. The story of the Brierly family is a compelling saga of a pioneering Inyo County family. A.A. Brierly worked in Inyo County as a school teacher, undersheriff, special deputy, superintendent of schools, probation officer, tax assessor and surveyor in a career that spanned 65 years, 1905-1970. He died in 1983 at age 98.

OWENS VALLEY WATER

Over 150 Years of Injustice to the Paiutes

BY ALAN BACOCK AND SALLY MANNING, BIG PINE PAIUTE TRIBAL ENVIRONMENTAL DEPARTMENT
PHOTOS COURTESY OF ALAN, SALLY, AND EASTERN CALIFORNIA MUSEUM

2021

In 2013, the City of Los Angeles celebrated the 100-year anniversary of the continuous operation of the Los Angeles Aqueduct. The LA Aqueduct transports water to Los Angeles from the Owens Valley. Los Angeles proclaimed, "The completion of the Los Angeles Aqueduct 100 years ago is a significant historical event that led to the growth and prosperity of Los Angeles and Southern California."

If water delivered by the aqueduct led to prosperity for the southland, an obvious question arises: **What happened to the land that the water was taken from?**

During the last 100 years, the Owens Valley has experienced significant changes, just as Los Angeles has, except that instead of prosperity, Owens Valley has experienced devastation. The results of moving water from Owens Valley to Los Angeles have been well documented and include:

- Drying up of Owens Lake which became the largest emitter of PM-10 dust (air pollution) in the nation;
- Destruction of animal and plant habitat due to the drying up of the valley's springs and wetlands;
- Irreversible damage to cultural sites because of unconcerned Los Angeles Department of Water and Power land managers
- Loss of groundwater-dependent vegetation due to groundwater pumping for export from the region; and
- A stifling of self-determination and economic growth opportunities.

Los Angeles' export of water has taken a huge toll on the environment in which we live, but it was not the first time that water was stolen in the Owens Valley.

Water was very important to the Native American Paiute people who lived in Owens Valley since time immemorial. Water gave rise to everything the Paiutes needed for life. Mary DeDecker, who lived in the Owens Valley from 1930 to 2000 and studied the regional ecosystems, stated the following about the Paiute people:

"They had developed a simple form of agriculture in the Bishop, Big Pine, and Independence areas which was an ingenious way of using the natural resources to advantage. Although they lived on the land, harvesting both natural and their cultivated native foods, they were wise enough to allow for replenishment. No resource was exploited to the point of no return. Above all, they had a high respect for water." (The illustrated map on page 5 gives an idea of how extensively the Paiutes used the landscape prior to the arrival of Euro-Americans.)

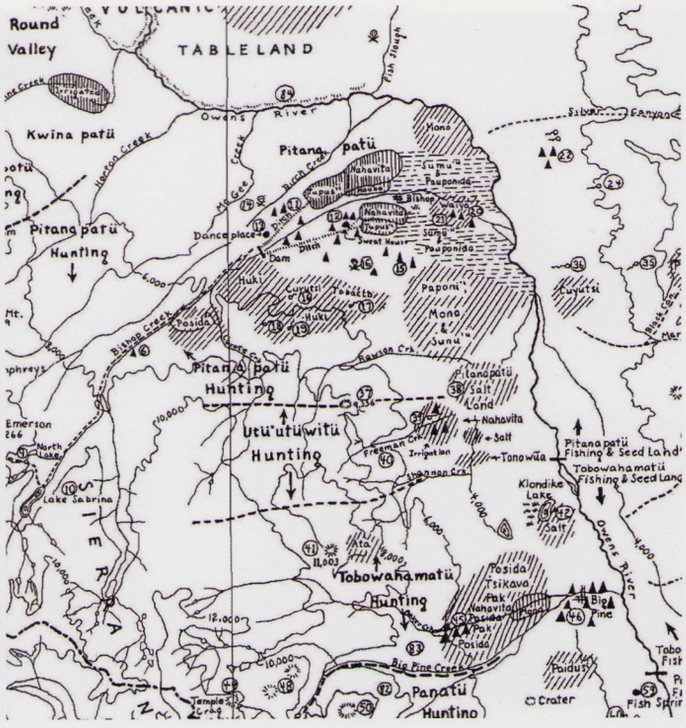
Throughout the valley, a remarkable network of irrigation ditches had been created and maintained by the ancestors of today's Paiute people. Using the water, the people cultivated plants that were used for food and medicine. The irrigation ditches, typically dug using a long, heavy digging stick, diverted flows out of the streams coming from the Sierra Nevada. Areas were irrigated some years and allowed to rest other years, and management was carried out by agreements among the people.

All of this came to an abrupt end when people of European descent arrived, claimed the lands and waters as their own, and fought with the Paiutes. The US government sent the cavalry, and in 1863 a campaign to remove the Native Americans from the valley was carried out by forcing them to march to the Fort Tejon area. After the forced march, "many of the Indian people returned to Owens Valley. Most of their irrigation ditches were already being used by white settlers…Although irrigation [of indigenous plants] in Owens Valley may have continued in some districts after 1863 on a lesser scale, it would appear that the system had largely broken down as a result of white settlement and the use of their fields for grazing and of the irrigation ditches for growing introduced crop plants." (Quoted from Journal of California Anthropology, p. 32, Summer 1976.)

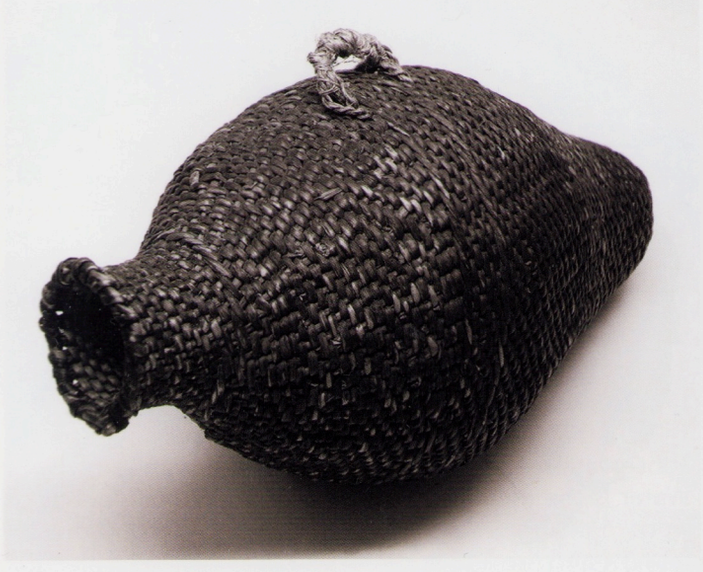
It has been said that when Owens River water flowed into the San Fernando Valley in 1913, the City of Los Angeles "stole the water fair and square" from the Owens Valley's white settlers. This was 50 years after the settlers "stole" the irrigation ditches and fertile lands from the Paiute ancestors. Paiute elder Vernon Miller is quoted as saying,

"Well, first we had the valley. Then the settlers came in and took it away from us. Then the City of Los Angeles came in and took it away from them."

It is important to remember and to tell the story. The descendants of the original inhabitants of this amazing valley want to understand their place in its history. Perhaps one day we might find justice for both the people and the environment.



Upper left, clockwise: Los Angeles Aqueduct Centennial 2013, map of Pauite water use territory (pre-settlers), Pauite woman with baby, groundwater gushing out of LADWP well #222 south of the Big Pine Reservation in 2011, Paiute waterjug basket.



Los Angeles Aqueduct Vol. 2 local history binder content list

Compiled by Bob Larson (1934-2024)

Collection of magazine articles, newspaper clippings, and other printed ephemera related to the Los Angeles Aqueduct; Los Angeles Department of Water and Power; City of Los Angeles' activity in Inyo County / the Owens Valley; and the so-called California Water Wars of the 20th century. This is the second in a series of two volumes on the Los Angeles Aqueduct.

Item compiled by/from the collection of Robert Wood "Bob" Larson (1934-2024). Bob Larson was a teacher at Salinas High School in Salinas, California for many years. Bob inherited his aunt Enid A. Larson's home in Big Pine, Inyo County, California in 1991, and permanently relocated to Big Pine in 2013. He continued his aunt Enid's collection related to Owens Valley History, and he accumulated articles and books on the natural and human history of Inyo County.

From the Inyo County Free Library Local History Room Collection. Scanned by the Inyo County Free Library in April 2026.

Background on the Los Angeles Aqueduct:

The Los Angeles Aqueduct is a 233-mile pipeline that conveys water from snowmelt runoff from the Sierra Nevada Mountains in California's Inyo and Mono Counties to the City of Los Angeles. The project was announced in 1905, construction began in 1908, and the fully completed pipeline opened in November 1913. The project was designed by William Mulholland (1855-1935), head of the Los Angeles Department of Water and Power (often abbreviated as LADWP or DWP).

The Los Angeles Aqueduct has been highly controversial within Inyo County since the project was first announced, and remains so through today. Critics of the aqueduct project cite its negative environmental effects and challenges to local property ownership, among other issues. Supporters of the aqueduct cite that Los Angeles has helped preserve and make publicly accessible much of the land that it now owns within the Owens Valley region.

Binder contents (in order of appearance):

Binder cover: Colored pencil drawing – "L.A. Aqueduct – Book 2"; red and white seal for City of Los Angeles Department of Water and Power.

Document: "Myth, History, and Water in the Eastern Sierra." Undated, 10 pages. Online sources suggest this piece is written by Abraham Hoffman, author of 1981 book *Vision or Villainy: Origins of the Owens Valley-Los Angeles Water Controversy*. Document appears to have been shared and printed from owensvalleyhistory.com.

Document: “The Story of the Los Angeles Aqueduct.” Undated timeline of history of Los Angeles Aqueduct.

Map: “Los Angeles Aqueduct System.” Black and white map depicting Mono Lake region at the north end to San Fernando at the south end. Depicts major points along the LA Aqueduct System, including reservoirs and power plants.

Map: “Lower Owens River Project Area – Inyo Co., California.” Black and white map depicting Aberdeen at the north end and Owens Lake at the south end. Depicts points along the LA Aqueduct System, including the aqueduct intake, Twin Lakes, Billy Lake, the Alabama Gates.

Photocopy of document: “Owens Valley and the Los Angeles Aqueduct.” [see below]

Document: “Owens Valley and the Los Angeles Aqueduct,” “Issued January 1925, by the Department of Public Service – City of Los Angeles.” Original document. This text, printed during the so-called California Water Wars between LA and Owens Valley residents, gives the City of Los Angeles’ point of view regarding the LA Aqueduct project from inception around 1905 through the printing date of January 1925. The piece contains sections including “Where the Aqueduct Begins”; “Ranchers Have Ample Water”; “Water Supply for 2,000,000”; “Early Attempts to Settle”; “Los Angeles Aids and Promotes Interests of Owens Valley”; “Impossible Demands”; “City’s Owens Valley Policy”; “Facts about Owens Valley”.

Periodical article: “The Water Below”, *Saudi Aramco World* Sep-Oct 2014. Relevance to Los Angeles Aqueduct project is unclear, beyond concept of drilling for water.

Advertisement: “Recreation in the Owens Valley – Brought to you by LADWP” by Los Angeles Department of Water and Power.” Undated, from unknown publication.

Periodical clipping: “Monumental treasures – Historical plaques spread throughout the Eastern Sierra.” *Inside the Eastside 2017*, p. 23. Names sites throughout Owens Valley with local history plaques created and dedicated by the Slim Princess chapter of E. Clampus Vitus, a satirical fraternal organization that helps preserve local history in the area. Provides information regarding plaques for Keeler, Westgard Pass, Cardinal Gold Mine, Sherman Stevens’ Cottonwood Charcoal Kilns, Owensville, Cartago Boat Landing, Horace Marden Albright, Cerro Gordo, Camp Independence, Owens Valley, Edwards House, San Francis Ranch at Bishop, Charley’s Butte, Pine Creek Tungsten Mines, Bishop Creek Power Plants, Movie Flat (in the Alabama Hills), Mt. Whitney Fish Hatchery, The Alabama Gates.

Unknown periodical clipping: “100 Mules Mark 100-Year Milestone – Los Angeles Aqueduct anniversary commemorated with living art projects, protests and more” by Jon Klusmire. [Bottom of page states “Profile 2013-14.”]

Newspaper clipping: *Los Angeles Times*, 29 Mar 2015, p. F8. “A dive into L.A.’s water – This look at William Mulholland gets lost in the details of his aqueduct project” by Liz Brown. Book

review for *Water to the Angels: William Mulholland, His Monumental Aqueduct, and the Rise of Los Angeles* by Les Standiford.

Newspaper clipping: *Los Angeles Times*, 17 May 2015, p. B2. "No flow from Owens Valley" by Monte Morin. Article on drought's effect on Los Angeles Aqueduct.

Documents: Eastern California Museum 2013 Commemorative Calendar – Los Angeles Aqueduct Centennial 1913-2013. Includes photographs: "A surging Owens River"; Bessie Van Norman breaks champagne bottle to christen LA Aqueduct Intake near Big Pine; young couple pose on steam shovel bucket used to dig aqueduct; electric-powered shovel carving Aqueduct south of Lone Pine; men preparing to pour concrete to line the Aqueduct near Cottonwood Creek; group portrait of laborers who help construct the Aqueduct; suction dredge, powered by Division Creek Power Plant, "digging out then floating down the unlined portion of the Aqueduct" from Aberdeen to the Alabama Gates; Alabama Gates spillway facility north of Lone Pine; dipper dredge used to carve Aqueduct, Lone Pine resident Russ Spainhower in photo; The Horseshoe, a section of the Aqueduct in Olancha; section of the concrete-lined LA Aqueduct near the Haiwee Reservoir, not yet filled with water; artesian well drilled in 1910 by LADWP east of Independence; Bessie Van Norman, Independence resident and wife of LADWP supervisor Harvey Van Norman, stands at Los Angeles Aqueduct Intake at Big Pine in Feb 1913, which she christened; water splashing down The Cascades at the conclusion of the Los Angeles Aqueduct on 5 Nov 1913; the Division Creek Power Plants: an earlier one made of wood, and a later one made of concrete; the LA Aqueduct near Lone Pine.

Document: *Municipal League of Los Angeles Bulletin*, 15 Jul 1924, Vol. 1, No. 12. Original document. Includes articles: "The Owens Valley 'Revolt'", an "investigation on the spot of the difficulties that have arisen over water between the city of Los Angeles and the dwellers in the Owens River Valley" by R.E. Chadwick, Secretary Anthony Pratt, and Associate Secretary R.W. Borrough. Article is a response to the May 1924 bombing of the Los Angeles Aqueduct near Lone Pine. Articles in *MLLAB* provide perspective on California Water Wars-era Owens Valley region from a pro-Los Angeles perspective.

Newspaper clipping: *Inyo Register* (Bishop CA), 19 Jan 2017, p. 4. "More reasons to support LAxit – Top of The Morning" by Daniel Pritchett. Editorial in support of the city of Los Angeles divesting from the Owens Valley region (inspired by the recent Brexit headlines).

Periodical article: *Outdoor California*, Sep-Oct 2016, p. 32-39. "A River That Time Forgot – The Desert Beauty of the Owens River Gorge" by Greg Vinci.

Newspaper clipping: *Inyo Register*, 30 Nov 2017, p. 4. "An open letter to LADWP" by the Walking Water Core Team [Gigi Coyle, Kate Bunney, Alan Bacock]. Open letter from environmental group urging LADWP to share water resources; collaborate with sustainability-minded organizations; support Owens Valley-related projects that empower local community; to

meet with “innovative leaders in water retention landscapes”; to do further research before expanding LADWP’s solar parks.

Document: Website printout detailing “There It Is – Take It!: Owens Valley and the Los Angeles Aqueduct, 1913-2013,” “a self-guided car audio tour through Owens Valley, California along U.S. Route 395 examining the controversial social, political, and environmental history of the Los Angeles Aqueduct system.” Radio program / podcast series created by artist Kim Stringfellow. Text details each interviewee and the topic they speak about. Track 1: Chris Plakos, LADWP Public Relations Officer. Track 2: Alan Bacock, Big Pine Paiute tribal member. Track 3: Ernest Kinney (“life-long resident of Owens Valley, who worked as mule packer and guide early in life and later as an artist”); William “Bill” Kahrl (author of *Water & Power*); John Walton (author of *Western Times & Water Wars*); Track 4: William Kahrl; John Walton; Track 5: Mark Bagley (Owens Valley Committee, a nonprofit organization “seeking just and sustainable management of Owens Valley land and water resources”); Track 6: Greg James (former Inyo County Water Department Director); Track 7: Stan Matlick (Bishop rancher); Track 8: Harry Williams, Bishop Paiute Tribal Member; Track 9: Daris Moxley (Bishop Rancher); Track 10: Benett Kessler (reporter with Sierra Wave Media); Track 11: Thaddeus Taylor (40 Acres resident); Track 12: Brian Tillemans (LADWP Water Resources Manager); Track 13: Ted Schade (Great Basin Unified Air Pollution Control District); Track 14: Mike Prather (environmental activist); Track 15: Sam Wasson (retired LADWP employee and Keeler resident); Track 16: Bill VanWagoner (LADWP Owens Lake Dust Mitigation Manager); Track 17: Nancy Masters (community activist); “October 24, 2012 – Forget Chinatown, Get the Real Story of California’s Most Famous Water War” by Kim Stringfellow.

Newspaper clipping: *Los Angeles Times*, 5 Apr 2015, p. A17. Sunday Opinion, Editorials. “Paying for the river project.”

Newspaper clipping: *Inyo Register*, 18 Jul 2013, p. 1. “The ‘untold story’ of Inyo’s water wars – Local author to share front-line insights of his grandfather A.A. Brierly” by Jon Klusmire.

Periodical clipping: *Jeffrey Pine Journal* (publication of Friends of the Inyo), Spring 2021, p. 4-5. “Owens Valley Water – Over 150 Years of Injustice to the Paiutes” by Alan Bacock and Sally Manning, Big Pine Paiute Tribal Environmental Department.